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E.H.del. H.Sowerby, lith.

Ignatia Amara.

F.Reeve, imp.

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THE

FLORA HOMŒOPATHICA;

OR,

Illustrations and Descriptions

OF THE

MEDICINAL PLANTS USED AS HOMŒOPATHIC REMEDIES.

BY

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FLORA HOMŒOPATHICA.

XXXVII.

IGNATIA AMARA.

St. Ignatius's Bean.

Synonyms.—Faba Sancti Ignatii. Cucurbitifera malabathri foliis scandens, cujus nuclei faba Sancti Ignatii nuncupati, *Plukenet.* Ignatiana philippina, *Lour. Cochinch.*, 126. Ignatia, Faba Sancti Ignatii, *Linn. Suppl.*, 129; *Willd. Sp. Plant.*, vol. i. p. 1053; *Mart. Mill. Dict.*, vol. ii. Igasur seu Nux Vomica legitima Serapionis, *Camill.* Nux pepita seu Faba St. Ignatii, *Act. Phil.* Strychnos Ignatii, *Berg. Mat. Med.*, p. 89. Faba febrifuga, *Geoff.*, vol. ii. p. 459. Faba Indica, *Lew.*, vol. ii. p. 153.

Foreign Names.—*Fr.:* Fève St. Ignace. *Germ.:* Bittere Fiebernuss, Bittere Ignatia. *Ital.:* Faba St. Ignatii.

Nat. Order, Apocyneæ, *Juss.*—Pentandria, Monogynia.

Gen. Char.—*Calyx:* perianth inferior, of one leaf, short, bell-shaped, with five upright, ovate, blunt teeth. *Corolla* of one petal, funnel-shaped; tube thread-shaped, a span long, smooth, erect; limb flat, in five deep, oblong, obtuse, entire segments. *Stamens:* filaments five, inserted into the receptacle, as long as the tube, thread-shaped, very smooth; anthers cohering, in the form of an oblong, acute, hispid, five-sided tube. *Pistil:* germen minute, superior, ovate, smooth; style thread-shaped, the length of the stamens; stigma in two deep, awl-shaped divisions. *Pericarp:* berry large, pear-shaped, smooth, of one cell, with a thick, woody coat. *Seeds* numerous, smooth, crowded, hard, oblong, somewhat angular; the plumula stalked.

Spec. Char.—*Calyx* inferior, five-toothed. *Corolla* with a very long tube. *Berry* coated, of one cell, with many seeds.

Fig 1. A magnified view of an anther. 2. A seed. 3. A section of the same, showing the position of the embryo. The drawing of this plant is made from the dried specimen in the Herbarium of F. Linnæus, and coloured after Don's description.

History.—The seeds of the Ignatia amara (Strychnos Ignatia) are, in all probability, identical with the Igasur or Nuces vomicæ mentioned by Serapion. Alston (*Lectures on the Mat. Med.*, vol. ii. p. 38) states that the seed came into the Dutch shops about the latter end of the seventeenth century. Lemery says that a Spanish Jesuit first brought it to the notice of the Portuguese merchants, and called it Faba St. Ignatii from Ignatius Loyola. The seeds are worn as amulets by the natives of the Philippine Islands, for the cure of all kinds of diseases. Dale (*Pharmacol.*, p. 330) says it resists poison, cures quartan agues; "urinam et menses provocat, vertiginem inducet et vomitiones ciet." As a medicine, it has been employed in periodical diseases, atonic gout, chronic cramp, epilepsy, paralysis; as an anthelmintic; in dropsy, intermittent fevers, cholera, cardialgia, amenorrhœa, periodical spasmodic asthma, paralysis of the lower extremities, etc., etc.

Description.—Ignatia amara is a beautiful tree, with long, twining, copious, smooth, branches. The *leaves* are opposite, stalked, ovate, and entire, a span long, and very smooth. *Panicles* axillary, small. *Flowers* very long, drooping, white, and scented like jasmine. *Fruit* the size and shape of a middling pear. *Seeds* scarcely an inch long, and very bitter. The fruit was first described by Father Camilli, under the name of Catalongay and Cantara.

Geographical Distribution.—A native of the East Indies and Philippine Islands.

Parts used in Medicine, and Mode of Preparation.—The Seeds, which are reduced to powder in a mortar, placed in hot water during the pulverization. The first three attenuations are made by trituration. The seeds, as found in the shops, are about the size of olives, round and convex on one side, and somewhat angular on the other; externally, they are brownish.

Physiological Effects.—*On Animals.* Orfila (op. cit.) gave a dog half an ounce of the powder of Ignatia. In about

five minutes he commenced to pant; fifteen minutes afterwards symptoms of convulsions appeared; and in about half an hour he fell down in an attack of tetanus, the intellectual faculties being unimpaired. The animal died asphyxiated in about twenty minutes after the tetanic symptoms came on.

In another experiment, six grains sufficed to kill a large-sized dog.

Orfila mentions that the extract of Ignatia injected into the veins, or applied externally, acts in the same manner as the upas and the nux vomica.

On Man.—Camilli (*Phil. Trans.*, vol. xxi. p. 1699) reports that a man suffering from dyspepsia, being attacked with vomiting and diarrhœa, took a scruple of the powder of Ignatia. He was soon seized with excessive irritation and severe convulsive movements; his jaws were closed; the muscles of the face were drawn in different directions, as if the person was convulsed with laughter.

A paralytic stiffness in the lower limbs, with involuntary twitchings in them, great anxiety, coldness of the whole body, with dilatability of the pupil, etc., were the symptoms produced in a youth of twenty years by an over-dose of Ignatia; his head was free, his consciousness perfect, but on account of the anxiety he could not express himself properly. He was completely restored by drinking eight ounces of vinegar in the course of half an hour (*Hahnem. Less. Writ.*, p. 379).

Loureiro (*Flor. Cochinch.*, vol. i.) states that giddiness and violent cramps were produced by the use of this drug, which were relieved with lemon-juice and cold water.

A man, forty years old, took, after tertian fever, half of a bean of Ignatia in brandy. He had numbness of his extremities, violent, general, convulsive cramps, with great perspiration.

Jorg (*Mat. zu einer Neuen Arzneim.*, 1624) made the following experiments with Ignatia; one ounce of the powder mixed with one ounce of wine:—

Fr— took nine drops in an ounce of water; bitter taste, and tearing pain in the sternum and shoulders in the evening; fourteen drops produced confusion and throbbings; thirty to eighty drops had no further effect.

G— took ten drops; in an hour, sense of oppression and weariness, of half an hour's duration; eighteen drops produced symptoms analogous to drunkenness.

In others, the symptoms produced from different doses, varying from nine to sixty drops, were: pain in the head on right side, giddiness, confusion, diarrhœa, great pain in the chest, violent pain in the hypochondria, nausea, vomiting, cramps, convulsions, weariness and inclination to sleep, loss of appetite, secretion of saliva.

Given in powder, there was bitter taste, increased secretion of saliva, pain in the region of the spleen and stomach; violent pain in the head; borborygmi in the bowels; loss of appetite; frightful dreams; diarrhœa, with pain and cutting in the lower bowels; pain in the eyes, with dull pressure on the brain; oppression at the chest; cutting pain in the region of the umbilicus; bloody stools; burning and lachrymation of the eyes, etc.

Medical Uses (Homœopathic).—*Hahnemann's observations (Mat. Med. Pur.)*: "The rapid succession of the alternate effects of Ignatia adapts it chiefly to numerous acute disorders, and it may justly be considered a polychrest remedy.

"Usually Ignatia completes its action in a few days; there are, however, certain constitutions and conditions of disease in which it fails to excite any evacuation, and I have then seen it prolonged to nine days. It agrees with but few chronic cases, and then can only be given as an intermediate remedy, after some other more appropriate and of longer action. When Ignatia is given, it sometimes happens (which is seldom the case with other drugs) that the first dose fails to answer its end, because, for some unknown reason, it acts primarily by symptoms opposite to the disease, whence, after the reaction,

an aggravation takes place, the same as with all palliatives. In this case, we may, without recurring to any intermediate medicine, immediately give a second dose of the same dilution, without which the cure cannot be attained; and we must positively trust entirely to the *contrasting* effects of this medicine. However, this seldom happens; for in a disorder that comes on rapidly, the first dose usually produces all the effect of which Ignatia is capable, when correctly chosen. When, in a very excitable person, or from too powerful a dose, excessive sensibility or anxiety occurs, the antidote is coffee; but if the Ignatia has been injudiciously given, and its symptoms do not resemble those of the disease, the effects may be allayed, according to their nature, with Pulsatilla or Chamomilla, or, in rarer instances, with Cocculus, Arnica, Camphor, or Vinegar.

"Whatever analogy may be perceived between the positive effects of Ignatia and Nux Vomica, there is also a great difference, since the state of mind to which one is adapted would be very unsuitable to the other. Ignatia should not be given on occasions of passion, eagerness, or violence; but in those in which are displayed sudden changes from high to low spirits, or other conditions denoting Ignatia, supposing that the accompanying symptoms are such as it would produce.

"Even in a high state of development, Ignatia is an excellent remedy in the case of persons deeply offended, who have no disposition to violent anger or revenge, but who brood over their vexation and distress, and are continually tormented with the annoying recollection of the offence or injury they have received; consequently, it is applicable to all morbid states of mind resulting from these causes.

"Thus epileptic fits, even when chronic, which are excited by disappointment or displeasure, and never appear under other circumstances, may often be prevented by a timely dose of Ignatia. Epilepsy, brought on in young people by terror, may also, if not often repeated, be cured by this medicine. But it is highly improbable that chronic epilepsy should

ever be cured by it, at least there are no such instances recorded, for almost always other powerful remedies have been used simultaneously, and there is no proof of the cure being permanent. When a person has had for the first time an attack of epilepsy, caused by some distressing event, and this attack is formidable from its duration or frequent recurrence, one small dose of tincture of Ignatia often effects a certain and final cure. But it is otherwise in chronic epilepsy, where it cannot produce lasting benefit, for the same reason as in other chronic diseases. For its peculiar primitive effects, which are commonly opposed to each other, follow, even in disease, this character of opposition, so that when the first dose has put a stop to the morbid condition, we ought not hastily to give a second, because it would reproduce the malady, and the contrary alternative would ensue, which brings with it all the inconvenient consequences of palliatives. It is therefore argued that Ignatia should be given only in sudden attacks and acute diseases.

"This medicine should be taken in the morning, unless there is danger in losing time; for when it is taken a short time before going to bed, it causes agitation during the night."

"St. Ignatius's Bean (Ignatia amara) has been observed to produce trembling of several hours' duration, twitchings, cramps, irascibility, sardonic laughter, giddiness, cold perspiration. In similar cases it will show its efficacy, as experience has partly demonstrated. It produces febrile rigor, and (in its secondary action?) stiffness of the limbs; and thus it has cured, by similarity of action, intermittent fever which would not yield to Bark: probably it was that less simple form of intermittent in which the complication consisted of excessive sensitiveness and increased irritability (especially of the primæ viæ)" (*Hahnem. Less. Writ.*, p. 327).

Clinical Observations.—Ignatia, under certain circumstances, is particularly serviceable in derangement of the nervous system in women and children. In violent screams from

anger in children. In nervous affections of young girls at the time of puberty; and in women at the critical period. In violent spasms and convulsive movements in children at the time of teething. In hysterical spasms. Epilepsy in young persons after violent fright or anger. Soreness (chafing) of children from abuse of chamomile. Intermittent fevers. Shivering, with thirst. Heat, without thirst, etc. Consequences of deep-rooted mental affections, especially of grief. Melancholia and fixed mania, occasioned by fright or other mental emotions in females. Hemicrania and clavus hystericus. Headache, as if a nail were driven into the head. Violent neuralgia of the head (after Bell. and Hyos.) Throbbing toothache in coffee-drinkers. Globus hystericus. Burning pain in the stomach. Painless diarrhœa. Prolapsus recti. Uterine spasms. Catamenia, premature and profuse, in a nursing female, etc. etc. (*Noack and Trinks*, op. cit.)

Antidotes.—To over-doses, Vinegar. To small doses, Arnica, Camphor, Chamomilla, Cocculus, Coffea, Nux Vom., Puls. Ignatia is an antidote to Chamomilla, Coffea, and Nux Vomica.

XXXVIII.

IPECACUANHA.

(CEPHAËLIS IPECACUANHA.)

Ipecacuan.

Synonyms.—Callicocca Ipecacuanha, *Brotero*, *Linn. Trans.*, vol. vi. p. 137. Ipecacuanha fusca, *Piso*, *Bras.*, p. 101. Herba Paris Brasiliana, Polycoccos, *Raii Hist.* Psychotria Ipecacuanha, *Stokes*, *Bot. Mat. Med.*, vol. vi. p. 364. Cephaëlis Ipecacuanha, *Rich. Hist. Ipec.*, t. ii. p. 21, etc.

Foreign Names.—*Fr.:* Ipecacuana. *Ital.:* Ipecaquana. *Span. and Port.:* Ipecacuanha. *Germ.:* Brechwurzel, Ipecacuanha. *Dut.:* Ipecacuanna. *Swed.:* Kräkrot. *Dan.:* Americansk, Bräkrod. *Russ.:* Rvotnoi koren.

Nat. Order, Aggregatæ, *Linn.*; Rubiaceæ, *Juss.*; Cinchonaceæ, *Lindl.*—Pentandria, Monogynia.

Gen. Char.—Tube of the *calyx* obovate. *Limb* very short, five-toothed. *Corolla* somewhat funnel-shaped; its lobes fine, small, rather obtuse. *Anthers* inclosed. *Stigma* bifid, usually exserted. *Berry*, obovate, oblong, crowned with the remains of the calyx, two-celled, two-seeded (*D. C.*)

Spec. Char.—*Stem* ascending, at length erect, somewhat pubescent at the apex. *Leaves* oblong-ovate, rough above, finely pubescent beneath. *Stipules* cleft into setaceous segments. *Heads* terminal, erect, at length, pendulous. *Bracts* four, somewhat cordate (*D. C.*)

History.—Guillaume Pison, in 1648, was the first person who mentions Ipecacuanha as a remedy commonly employed in Brazil against dysentery. In Europe, however, it was not used

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Fig. 1. A floret. 2. The same cut open, showing position of the anthers. 3. Stigma. 4. Berry. 5. Section of the same. 6. The root. The drawing is taken from Brotero's figure in the Linnæan Transactions.

(Ipecacuanha.)

H Sowerby, lith.

Cephaelis Ipecacuanha.

F Reeve, Imp.

until much later, although in 1672 a certain physician of the name of Legras brought a large quantity from Brazil into France. It was only in 1686 that its effects were first made known in Paris by Jean Adrien Helvetius, who visited, with the celebrated physician Afforty, a merchant of the name of Grenier or Garnier. This gentleman, when he recovered his health, wishing to show some mark of gratitude to his physician, presented him with a portion of a new and precious remedy imported from Brazil for the cure of dysentery. Afforty did not attach any importance to this gift, and gave it to his pupil, Helvetius. The young man experimented with it on several persons affected with dysentery, and believed that he had discovered a specific against this disease. Fortunately for him, many gentlemen of the court, and the Dauphin himself, son of Louis XIV., were at that time suffering under this malady. The king, informed by his minister Colbert of the secret that Helvetius possessed, charged his physician D'Aquin, and his confessor Père de la Chaise, to enter into an arrangement with him for the publication of his remedy. After various trials, at the Hôtel Dieu, in Paris, which were crowned with the most brilliant success, one thousand louis d'ors were given him, and he was elevated to the first medical honours in France. He wrote a tract to describe the mode of its employment in diarrhœas and dysenteries; and it seems that he was in the habit of giving very large doses, to the amount of two drachms, both as a decoction and an enema. J. B. Alliot wrote with great violence against Helvetius, but his theoretical arguments could not shake or overturn the experience of his antagonist. Sir Hans Sloane and Leibnitz contributed most powerfully to establish the employment of this drug in these diseases. The latter assures us, that in his time they continued to administer it in large doses, but in powder instead of decoction. In this country, about the first half of the eighteenth century, it was supposed that a poisonous root was sold instead of the Ipecacuanha. Jean Daniel Gohl was the first to employ Ipecacuanha in

smaller doses; he refused to agree as to its specific virtues in diarrhœas and dysenteries, and attributed its salutary virtues to the vomiting it occasioned. These ideas were followed by Geoffrey, Trew, and Gianella, who employed very small doses of it in intermittent fevers. Nicolas Dalberg had recourse to still smaller doses in hemorrhages and affections of the chest; and in England, Dover combined Ipecacuanha and Opium, and obtained in this manner an excellent antispasmodic, which favoured at the same time perspiration from the skin. Richard Brocklesby, in 1760, was the first to praise this remedy, which became afterwards so celebrated. Mark Akenside attributed to Ipecacuanha a tranquillizing virtue, and recommends the root in convulsive asthma; and Thomas Reed in phthisis (*Sprengel, Hist. de la Méd.*, t. v.)

Dr. Pye, 1786 (*Med. Obs. and Inq.*, vol. i. p. 290), says of Ipecacuanha: "A medicine which has so justly gained the reputation not only of the mildest and safest, but almost a specific remedy for many disorders of the stomach and bowels; as efficacious to root out every offending humour as the most humane physician could devise; nay, of so great use, that hardly any disease, which takes its origin from the stomach, can be cured without it." As a medicine it was, as mentioned above, first used in dysentery; afterwards it became a very general remedy in various diseases. In full doses, as an emetic; in smaller doses, as a nauseant, antispasmodic, diaphoretic, and expectorant. In affections of the respiratory organs. In mucous catarrh. Bronchial hemorrhage. Hemorrhages from the lungs, etc. Croup, and other catarrhal affections. Asthma. In affections of the alimentary canal. Indigestion. Dysentery. Diarrhœa of different kinds. In various other diseases. In hysterical and hypochondriacal spasms. Epilepsy. Catarrhal and rheumatic affections. Rheumatic fever. Intermittent fever. Palpitation of the heart. Ischuria. Strangury. Dysuria, etc.

DESCRIPTION.—The Cephaëlis Ipecacuanha is a perennial

plant. The *root* is simple, or somewhat branched, and furnished with a few short *radicles;* it is roundish, three or four inches in length, and two or three lines in thickness, irregularly bent, externally of a brown colour, and annulated with numerous, prominent, unequal rings. The *stem* is procumbent at the base, rising from five to nine inches in height, round, the thickness of a hen's quill, smooth, leafless, of a brownish colour, knotted at the lower part, and leafy towards the upper; after the first year it throws out a few knotty runners, from which, about six inches apart, new stems arise. The *inferior leaves* are caducous, so that not more than eight generally remain at the summit of each stem when it flowers; they are nearly sessile, opposite, spreading, ovate, pointed at both ends, three or four inches long, and less than two broad; of a bright green on the upper surface, beneath of a whitish-green colour; pubescent, veined; at the base of each pair of leaves is a pair of short, fimbriated, withering stipules embracing the stem. The *flowers* are aggregated in a solitary head, on a round, downy *footstalk* terminating the stem, somewhat drooping, and encompassed by a four-leaved involucre. The *florets* are sessile, from fifteen to twenty-four in number, interspersed with little *bracteas*. The *calyx* very small, five-toothed, superior, and persistent. The *corolla* monopetalous, the border shorter than the tube, woolly about the throat, swelling upwards, and divided into five ovate, acute, spreading segments. The *filaments* are short, capillary, inserted into the upper part of the tube, and bearing oblong, linear, erect *anthers*. The *germen* is ovate, surmounted by a thread-shaped style, as long as the tube, surrounded at the base with a short, nectariferous rim, and terminated by two obtuse stigmas the length of the anthers. The *fruit* is a one-celled berry, of a reddish-purple colour, becoming wrinkled and black, and containing two smooth, oval seeds. Pereira (op. cit.) gives the following description of the root: "The root of this plant is the *Ipecacuanha* (*Radix Ipecacuanha*) of the shops. No other root is known in English commerce by this name. By

continental writers it is denominated *Annulated Ipecacuanha* (*Radix Ipecacuanha annulatæ*), to distinguish it from the roots of the Psychotria emetica and Richardsonia scabra; the first of which is termed Striated Ipecacuanha, the second Undulated Ipecacuanha. The root of Cephaëlis Ipecacuanha occurs in pieces of three or four inches long, and about the size of a small writing-quill, variously bent and contorted, simple and branched. It has a knotty appearance, in consequence of a number of deep, circular fissures about a line in depth, and which extend inwardly to a central ligneous cord, so as to give the idea of a number of rings strung upon a thread (hence the name *annulated*). These rings are unequal in size, both with respect to each other and to different parts of the same ring. This root has a resinous fracture. Its substance consists of two parts; one called the *cortical portion*, which is brittle and resinous, of a horny appearance, with a greyish or brownish-grey colour, sometimes whitish; and a second called *meditullium*, and which consists of a thin, yellowish-white, woody, vascular cord, running through the centre of each piece. In one hundred parts of good Ipecacuanha, there are about eighty of cortex and twenty of meditullium. Ipecacuanha root has an acrid, aromatic, somewhat bitter taste, and a slightly nauseous but peculiar odour. The colour of the root varies somewhat, being brownish, reddish-brown, greyish-brown, or grey." Richard (*Dict. des Sc. Méd.*, t. xxvi.) mentions three varieties: 1. *Brown annulated Ipecacuanha*. 2. *Red annulated Ipecacuanha*, 3. *Grey annulated Ipecacuanha*. According to Pelletier's analysis, every hundred parts of the cortex contain from fourteen to sixteen per cent. of *emetina*.

Geographical Distribution.—Brazil; in moist, shady places, from eight to twenty degrees of south latitude. Abundant in the valleys of the granitic mountains which run (more or less distant from the sea) through the provinces of Rio Janeiro, Esperito Santo, and Bahia. It is also met with in Pernambuco. Humboldt and Bonpland found it on the St. Lucar Mountains

of New Granada. The roots are gathered at all seasons of the year, but more frequently from January to March.

Parts used in Medicine, and Mode of Preparation.—The Roots. The dark roots should be chosen; the spongy, and those which have no rings should be rejected. The medicine is to be prepared either by trituration with sugar of milk, or else the tincture formed by digestion in twenty parts of alcohol.

Physiological Effects.—If the powder or dust of Ipecacuanha be applied to the eyes or face, it acts as an irritant, and causes redness and swelling of these parts. Inhaled, it irritates the respiratory passages, and in some persons brings on difficulty of breathing, similar to an attack of spasmodic asthma (*Scott, Phil. Trans.*, p. 1776). Mr. Roberts, surgeon, of Dudley, is affected in this way, and I have received from him the following account of his case: "If I remain in a room where the preparation of Ipecacuanha is going on—for instance, making the pulv. ipecac. comp.—I am sure to have a regular attack of asthma. In a few seconds dyspnœa comes on in a violent degree, attended with wheezing and great weight and anxiety about the præcordia. The attack generally remains about an hour, but I obtain no relief until a copious expectoration takes place, which is invariably the case; after the attack is over I suffer no further inconvenience. I have always considered that the attack proceeds from the minute particles of the Ipecacuanha floating in the atmosphere, acting as an irritant on the mucous membrane lining the trachea and bronchial tubes. In some cases, the mere odour of the root seems sufficient to excite difficulty of breathing, with a feeling of suffocation" (*Pereira*, op. cit.)

Dr. Prieger (*Rust, Mag.*, b. xxxii. h. 1, 3, 182) mentions a case of poisoning produced by the incautious inhalation of Ipecacuanha. A druggist's assistant, who was suffering from catarrh, inhaled, whilst powdering the root, the dust for three hours. Vomiting came on, which was followed by a sense of

constriction of the chest; an hour after this, he complained of a sense of suffocation and feeling of tightness in the throat; there was great pallor of the countenance, with anxiety. He was bled, and had Assafœtida and Belladonna given him, which seemed to aggravate rather than relieve; for in five hours a fresh attack came on, with very severe symptoms of suffocation. Rhatany and Uva-ursi relieved him, and he was able to leave the house in two days.

Mr. Vardy, of Stamford Street, has kindly communicated to the author two instances of the peculiar effects of Ipecacuanha in minute quantities: one, that of a late general practitioner in the Borough, who was unable even to allow any preparation of Ipecacuanha to be made up in his shop, from the distressing asthmatic symptoms it produced; the other, that of a lady, whose susceptibility to this drug was so great that she could detect, by the alteration in her breathing, the smallest quantity of Ipecacuanha in a room.

Pereira (op. cit.) says, "the most remarkable of the effects of Ipecacuanha seem to be produced by the agency of the eighth pair of nerves."

"How singular it is," says Dr. M. Hall, "that Ipecacuanha taken into the bronchia should excite asthma, and taken into the stomach, should induce another affection of the respiratory system—vomiting." Sundelin (*Hand. d. Sp. Heilmittell*, ii. 5) ascribes the red condition of the bronchial membrane and the congestion of the lungs of animals killed by emetine not to the specific stimulus exerted by this substance over the pulmonary mucous membrane, but to an exhausting stimulus over the eighth pair of nerves, by which a condition similar to suffocative catarrh is brought on; for he has observed the same appearances in the bodies of persons who have died of this disease, where there was certainly no inflammatory condition of the bronchial membrane, but a paralytic condition of its small blood-vessels (*Id.*)

Medical Uses (Homœopathic).—*Hahnemann's observa-*

tions: "Although the following table of symptoms is not complete, it suffices to prove that this powerful plant was not created solely as an emetic, but that it serves much higher and more important purposes. It was originally brought into Europe as a remedy for autumnal dysenteries. A hundred and thirty years since, Leibnitz recommended it in those affections, and it was improperly used, according to the fallacious notion that because it will cure certain cases of diarrhœa, it is therefore adapted to dysentery, although these diseases are widely opposite to each other.

"However, this usage has somewhat declined, experience having so repeatedly shown that it is wholly unsuited to dysentery. The multitude of unfortunate attempts which have cost so many lives, might have been avoided by studying the pure and peculiar effects of Ipecacuanha; what morbid conditions it has the power of inducing in persons in health, and, by analogy, what cases it is able to cure. It would then have appeared that it is only of use in diminishing the excess of blood and some kinds of abdominal pains, but does not affect the other symptoms.

"On the other hand, the study of Ipecacuanha shows that, as it cures the disposition to vomiting analogous to that which it excites, it has also a specific efficacy, principally in hemorrhages, in spasmodic asthma that comes on in paroxysms, in suffocating spasms, and in some kinds of tetanus, always supposing that the other symptoms of disease coincide with it. Ipecacuanha is also the proper remedy for certain kinds of intermittent fevers, provided it has greater homœopathic affinity with them than any other medicine. If it is not perfectly analogous, it usually leaves the fever in a condition in which Arnica, China, Ignatia, or Cocculus should be given.

"Effects occasioned by giving Arsenic improperly, or by an excess of China, also yield to Ipecacuanha. In all cases in which it is administered homœopathically, it should be in very small doses. Hitherto I have given one drop of tincture, con-

taining the millionth part of a grain of the essence of the root, and its effects have appeared too powerful.

"It is only in cases of poisoning by too large a dose of opium, that it is necessary to give a large dose of Ipecacuanha; that is to say, thirty, forty, or sixty drops of the strong tincture, unless circumstances indicate strong coffee or Camphor in preference" (*Mat. Med. Pur.*)

"Ipecacuanha is used with advantage in affections against which Nature herself makes some efforts, but is too powerless to effect the desired object. In these, Ipecacuanha presents to the nerves of the upper orifice of the stomach, the most sensitive part of the organ of vitality, a substance that produces a most uncongenial disgust, nausea, anxiety; thus acting in a similar manner to the morbid material that is to be removed. Against this double attack Nature exerts antagonistically her powers with still greater energy, and thus, by means of this increased exertion, the morbid matter is the more easily removed. Thus fevers are brought to the crisis; stoppages in the viscera of the abdomen and of the chest, and in the womb, put in motion; miasmata of contagious diseases expelled by the skin; cramp relieved by the cramp that Ipecacuanha itself produces; their tension and freedom restored to vessels disposed to hemorrhage from relaxation, or from the irritation of an acrid substance deposited in them, etc. But most distinctly does it act as a similarly acting remedy to the disease sought to be cured; in cases of chronic disposition to vomit without bringing anything away. Here it should be given in very small doses, in order to excite frequent nausea; and the tendency to vomit goes off more and more permanently with each dose than it would with any palliative remedy" (*Hahnem. Suggestions for ascert. the Curative Powers of Drugs*, trans. by R. E. Dudgeon, M.D.)

"But as the diseased organism is altogether much more sensitive for the dynamic power of all medicines, so also is the skin of diseased persons. A moderate quantity of the tincture of Ipecacuanha applied to the bend of the arm effectually

removes the tendency to vomit in very sick individuals (by means of its primary power to excite vomiting)" (*Id., the Med. of Experience*).

Clinical Observations.—*Noack and Trinks* (op. cit.) : The special action of Ipecacuanha is upon the abdominal nerves and the solar plexus. It is especially serviceable where there is a sensible predisposition to a spasmodic condition of the abdominal and respiratory organs. In persons of thin habit of body, with light hair, nervous, irritable temperament. In women and children. In hysterical and hypochondriacal persons. (Rummell states that Ipecacuanha is as useful in Synochus as Aconite is in Synocha.) Intermittent fevers, with gastric complications. Relapse of ague after the use of Quinine. Muco-gastric fevers, etc. Palpitation of the heart, with constant desire to vomit. Febris lenta. Cholera Asiatica. Cholerine. Chronic disposition to vomit. Vomiting of pregnant women. Habitual and nightly diarrhœa. Watery diarrhœa in children. Dysentery, with gastric symptoms. Dysentery in the first stage. Spasmodic dysuria in hypochondriacal patients. Hæmaturia, with violent burning pain in the umbilical region. Uterine hemorrhage. Hemorrhage after parturition. Dry, spasmodic, shaking cough, with loss of breath. Dry, irritating cough. Violent spasmodic cough. Hooping-cough, especially with stiffness of the limbs and bleeding from the nose. Asthmatic sufferings, especially when the paroxysms are increased at night. **Spasmodic asthma, etc. etc.**

Antidotes.—To large doses, Tincture of Galls: to small doses, Arnica. Arsenicum. China. Nux Vomica. Ipecacuanha antidotes Opium.

XXXIX.

LAUROCERASUS.

(PRUNUS LAUROCERASUS.)

Common Cherry-Laurel.

SYNONYMS.—Prunus Laurocerasus, *Linn.* Padus Laurocerasus, *Mill. Dict.*, n. 4. Cerasus Laurocerasus, *Lindl.; Loisel.* Cerasus trapezuntina, *Belon.* Lauro cerasus, *Ger. Em.*, 1603; *Tourn. Inst.*, 627. Cerasus folio laurino, *Bauh. Pin.*, 450.

FOREIGN NAMES.—*Fr.:* Laurier-cérise. *Ital.:* Lauro regio. *Span.:* Laurel real. *Port.:* Loiroceregо. *Germ.:* Kirsh-lorbeerbaum. *Dut.:* Laurierkers. *Swed.:* Lagenbän-körsbärs-träd. *Dan.:* Lorben-kirsebœrstræe. *Russ.:* Lavro-vishnevoe-derevzo.

Nat. Order, POMACEÆ, *Linn.;* ROSACEÆ, *Decand.;* AMYGDALEÆ, *Lindl.*—ICOSANDRIA, MONOGYNIA.

GEN. CHAR.—*Drupe* globose or umbilicate at the base, fleshy, quite smooth, not covered with a pruinose powder. *Nucleus* (stone) somewhat globose, smooth. Young *leaves* conduplicate. *Pedicles* one-flowered or ramose (D. C.)

SPEC. CHAR.—*Racemes* shorter than the leaves. *Leaves* ovate-lanceolate, remotely serrate, with two to four glands beneath. *Fruit* ovate, acute (D. C.)

Fig. 1. The fruit. 2. A section of a drupe.

A.W. del. H Sowerby, lith.

Lauro-Cerasus.

History.—This plant was first introduced into this country in 1576, from Trebisonde, and from its vulgar names (Common Bay Laurel, Cherry Laurel) has been sometimes mistaken for the Bay tree (*Laurus nobilis*). Pereira (op. cit.) states, on the authority of Sprengel, that this plant is the Cerasus trapezuntina of Belonius. It has been but little employed in medicine. Browne Langrish made the first experiments with water distilled from the leaves, and found that in small doses it acts as a dissolvent in animals. Baylis first administered it to man in doses of from thirty to sixty drops in inflammatory diseases and obstruction of the lower bowel. Gerard Thilenus prescribed it with advantage in herpetic ulcers, to thin, as he says, the black blood.

It has also been used by others as a sedative narcotic in tic douloureux, phthisis pulmonalis, spasmodic cough, palpitation of the heart, intermittent fevers, cardialgia, strangury, amenorrhœa, hæmoptysis, pleurisy, angina pectoris, etc. As an external application in chronic inflammation of the eyes, incipient cataract, chronic inflammation of the mammæ, and in painful tumefaction of the uterus, nervous toothache, etc.

It is a vulgar remedy among the Dutch for inflammation and other affections of the lungs.

Description.—This evergreen perennial shrub grows from fifteen to twenty feet in height; has become completely naturalized in this country, generally resisting the winters, but a very severe frost will destroy it. Mérat states that a cold of 14° Fahrenheit will injure it, and the severe frost of 1837-8 destroyed vast numbers in this country. It is a very general inhabitant of our pleasure grounds. Its *flowers* are white, slightly tinged with yellow; long and clustering. Its *berries* are deep purplish black, larger than the common cherry, and have a sweetish not unpleasant taste. The *leaves* are of a beautiful glossy shining green; elliptic, oblong; four to eight inches in length; slightly serrated on the edge; stiff and leathery, and provided with a gland on each side of the midrib, half an inch above the

insertion of the leaf-stalk. They have no fragrance until bruised, and they then emit a strongish odour, like ratifia, which is strongest in the young undeveloped leaves during the months of May and June. The leaves have been confounded sometimes with the Portugal Laurel (*Prunus Lusitanica*). These may be easily distinguished by their darker green tint, the want of the serrated edge, and the absence of glands. The leaves of the Sweet Bay (*Laurus nobilis*) are not half the size of those of the Cherry Laurel, and are well known from their peculiar odour.

Geographical Distribution.—Asia Minor and Persia. Introduced into this country by Clusius, and now become naturalized. Common in gardens everywhere.

Parts used in Medicine, and Mode of Preparation.—The Leaves, which are gathered in April and May. They are to be reduced to a fine paste in an iron mortar, mixed with equal parts of alcohol; express the juice, and then mix again with equal parts of alcohol. The mother tincture thus prepared serves to make the attenuations. Christison (*Disp.*, 592) states that the hydrocyanated oil does not exist in the leaves ready formed, but seems to be produced by some mutual reaction of principles brought in contact with one another, when the cells of the plant are crushed and broken up.

Physiological Effects.—*On Vegetables.* The distilled water of the Cherry Laurel has a poisonous effect on almost all vegetables. Göppert states that its poisonous effect is owing to some quality peculiar to it, and not to the hydrocyanic acid it contains, as its activity is greater than that of water containing the same quantity of the acid (*Decandolle, Végét. Phys.*, 1358-9).

On Animals.—When applied to wounds in animals it induced vomiting, convulsions, great prostration of strength, diminished sensibility, and death. Injected into the stomach and rectum, it excited a similar train of symptoms, except that, in the latter, the convulsions were more violent, and tetanus of

the extremities was present. Its action was most rapid and intense when injected into the jugular vein.

On Man.—Several cases are recorded of its effects on the human subject. One of the earliest happened in Dublin in 1728. Martha Boyce, servant to a person who sold large quantities of the water, gave to her mother a bottle of it, and by the latter it was given to Frances Eaton, her sister. Mrs. Eaton was a shopkeeper, and thinking it a compliment to her customers, offered them some, among others, one Mary Whaley drank of it, went to another shop, and in about a quarter of an hour complained of violent disorder in her stomach; she was carried home, and from that time lost her speech and died in about an hour, without vomiting or purging or any convulsions. Mrs. Ann Boyce was informed of this, and came immediately to her sister; she affirmed it could not be the cordial that caused death, and to convince her of it, she filled out three spoonfuls and drank it, and shortly after two more; in a few minutes she died, without a groan or convulsions (*Madden, in Phil. Trans.*, vol. xxxvii.)

Fodéré says that, when he was attending his studies at Turin, in 1784, the chambermaid and man-servant of a noble family of that town stole (from their master), for the purpose of regaling themselves, a bottle of distilled laurel-water, which they took for an excellent cordial. Fearful of being surprised, they hastily swallowed, one after the other, several mouthfuls of it, but they soon paid the price of their dishonesty, for they expired almost instantly in convulsions. The dead bodies were carried to the University for examination; the stomach was found highly inflamed, but the rest of the organs were in a sound state (*Orfila*, op. cit.)

The leaves have proved fatal to children, from being too freely used for seasoning puddings and sweatmeats.

Dr. Paris (*Med. Juris.*, ii. 402) mentions an instance of several children, at an English boarding-school, having been dangerously affected by a custard flavoured with the leaves.

An instance has occurred to the author, where a patient was severely affected after taking soup flavoured with these leaves, great prostration and violent tetanic spasms being the chief symptoms.

The well-known and remarkable murder of Sir Theodosius Boughton, by Captain Donellan, is an example of the effect of the distilled laurel-water producing convulsions; and notwithstanding the evidence of Hunter, all writers on medical jurisprudence are now of opinion that the verdict was a just one.

Medical Uses (Homœopathic).—This remedy exerts its chief action on the brain, spinal marrow, great nervous trunks, and ganglionic system; therefore on the nerves of circulation and respiration. It produces in the head cramp; torpor, paralytic exhaustion, or annihilation of nervous power, particularly in the nerves of sensation and motion, and in the ganglionic system. Laurocerasus has been employed with success in many of the following conditions. Clonic and tonic cramp. Fainting. Tetanus. Opisthotonos. Trismus. Epilepsy. Apoplexia nervosa. Sopor. Typhus cerebralis et abdominalis, with incipient paralysis of the brain. Melancholia. Hypochondria. Hysteria. Acute and chronic inflammation of the liver. Tearing, drawing, shooting pain in the hard and soft parts of the face. Spasmodic contractions of the muscles of the face. As a palliative in cancer of the uterus (*Rau*). Catarrhal hoarseness and rawness of the voice. Catarrhal and nervous aphonia. Angina pectoris. Cyanosis from hereditary or organic defect in the heart, etc. etc. (*Noack and Trinks*, op. cit.)

Antidotes.—To large doses, Ammonia. Strong Coffee. According to Mœnch and Orfila, Mucilaginous substances. Oil of Turpentine. Bergongi gives as an antidote a solution of Tartar emetic, as Laurocerasus neutralizes the excessive action of that drug. Chlorine, internally and externally. Cold affusions. To small doses, Camphor. Coffea. Ipecacuanha, and Opium.

H. Sowerby, lith.

Ledum palustre.

J. Reeve, imp.

XL.

LEDUM PALUSTRE.

Marsh Ledum, Marsh Tea.

Synonyms.—Ledum palustre, *Linn.* Rorismarinum sylvestre, *Camer. Epit.*, 546. Led. Silesiacum, *Clus. Pann.*, 69. Cistus Ledon foliis rorismarini ferrugineis, *Bauh.* Pin., p. 467. Cistus Ledum Silesiacum, *Johns. Gerarde*, p. 1288, f. *n.*

Foreign Names.—*Fr.:* Ledon des Marais, Romarin sauvage. *Germ.:* Sumpfhorst, Porsch, Wilder Rosmarin. *Dut.:* Wylde Rosmaryn. *Ital.:* Ledo. *Span.:* Ledo. ***Russ.:*** **Bagulnik.** ***Pol.:*** **Rozmarin.** ***Dan.:*** **Vild Rosmarin.**

Nat. Order, Bicornes, *Linn.* Ericeæ, *Brown, Prod.; Lindl. Syn.* Ericæ, *Juss., Gen. Plant.*—Decandria, Monogynia.

Gen. Char.—*Calyx* inferior, very small, of one sepal, in five egg-shaped spreading segments, permanent. *Corolla* of five spreading, egg-shaped, concave, rounded petals. *Filaments* from five to ten, thread-shaped, spreading the length of the corolla. *Anthers* oblong, roundish at the base, opening by two terminal pores. *Germen* egg-shaped. *Style* thread-shaped, as long as the stamens. *Stigma* blunt. *Capsule* roundish or somewhat egg-shaped, of five cells and five valves, the dissepiments formed by the inflexed margins of the valves, opening from the base and between the dissepiments. *Seeds* numerous, flat, strap-shaped, roughish.

The minute, five-toothed calyx, the five-petalled corolla, the anthers opening by two terminal pores, the five-celled, five-valved, many-seeded capsule, opening at the base, and the flat, strap-shaped seeds, covered with a pellucid membrane or arillus, will distinguish from other genera in the same class and order *(Baxter)*.

Spec. Char.—*Leaves* strap-shaped, revolute at the margin, downy beneath. *Stamens* ten.

History.—Linnæus states that Ledum palustre has been used

Fig. 1. The stamens, style, and stigma. 2. Capsule. 3. A magnified view of an anther, front and back. 4. Germen and stigma.

by the inhabitants of the northern parts of Europe, more particularly of Sweden, as a popular remedy against hooping-cough, bilious attacks, etc. L. Odhelius also recommended its employment in lepra, pemphigus, and other skin affections; and by others in dysentery and diarrhœa. Hahnemann (in *Hufeland's Journal*, bd. ii. p. 207) recommended its use in a peculiar form of epidemic grippe, putting on the form of ague, and accompanied with rheumatic pains. The Swedes wash their oxen and swine with a decoction of it to kill lice; and in Lapland the branches are placed among the grain, from the reputed power of the plant to keep off mice. It was formerly used in Switzerland to supply the place of hops in the manufacture of beer; but it is apt to cause a most pernicious kind of intoxication and obstinate headache. The leaves are used by the Canadians in their hunting excursions as a substitute for tea; and by the Norwegians it is called Finne thé, or tea of the Laplanders.

Description.—Ledum palustre is a shrub, flowering from April to July. *Stems* shrubby, erect, slender, much branched, from one to three feet high, the young branches covered with a close, rusty-coloured down. *Leaves*, principally in the younger branches, scattered, horizontal, or reflexed, on short petioles, strap-shaped, quite entire, with revolute margins, channelled, smooth, of a dark green on the upper surface, paler on the under, the midrib clothed with close, rust-coloured down; the younger leaves upright, very downy. *Flowers* numerous, in dense, simple, terminal, bracteated corymbs. The whole plant, especially when bruised, has a strong aromatic, oppressive scent, somewhat like hops.

Geographical Description.—North of Europe: very plentiful in Lapland, Silesia, Bohemia, Denmark, Norway, and Sweden. North America: in the mountain lakes round New York; Canada; and amongst the Vosges mountains in France. Ireland (?).

Localities.—In marshy places and spongy bogs. In Ireland, detected by Sir Charles Gieseche on the north-west coast of

Ireland, where it seems to be a denizen, along with Papaver nudicaule. The fact of the plant growing among the wild islands of that coast cannot be doubted. In the more northern regions, too, of Europe and America these two plants are almost always found together (*Sir W. J. Hooker, in Fl. Lond.*) Notwithstanding these remarks of Hooker's, the plant has been admitted into the British Flora, on the solitary specimen found by Professor Gieseche in a fresh state, and taken from the hat of a fisherman in the neighbourhood of Archilhead.

Parts used in Medicine, and Mode of Preparation.—The whole Plant, dried, and reduced to powder, and then mixed with twenty parts (by weight) of alcohol; let it remain for eight days, decant the clear liquor, and dilute to the fifteenth (v) attenuation.

Physiological Effects.—*On Man.* Ledum palustre, as observed by some, produces violent headache and symptoms of intoxication. Hahnemann remarks,* "the Marsh tea (*Ledum palustre*) causes, as I have ascertained, among other effects, difficult, painful respiration; this accounts for its efficacy in hooping-cough, probably also in morbid asthma. Will it not be useful in pleurisy, as its power of so greatly diminishing the temperature of the blood (in its secondary action) will hasten the recovery? It causes a painful, shooting sensation in all parts of the throat, as I have observed, and hence its uncommon virtues in malignant and inflammatory sore throat. Equally specific is (as I have noticed) its power of causing troublesome itching in the skin, and hence its great efficacy in chronic skin diseases. The anxiety and the faintings it occasions may prove of use in similar cases. As a transitory and antagonistically acting powerful diuretic and diaphoretic remedy, it may cure dropsies more certainly, however, acute than chronic.

"On some of these properties depends its reputation in dysen-

* Suggestions for Ascertaining the Curative Powers of Drugs. Translated by R. E. Dudgeon, M.D.

tery. But were they real cases of dysentery, or some of those painful diarrhœas so often taken for it? In the latter case it may, as a palliative remedy, certainly hasten the cure, and even help to complete it; but in true, uncomplicated dysentery, I have never seen it of any use. The long-continued weakness it occasions was against its being used for a length of time, and it ameliorated neither the tenesmus nor the character of the excretions, though these became more rare. The symptoms of deranged biliary secretions were rather worse during its use than when patients were left without medicine. It causes a peculiar ill humour, headache, and mental confusion; the lower extremities totter, and the pupils dilate."

Medical Uses (Homœopathic).—Hahnemann states that this medicine seems particularly adapted to chronic diseases, principally characterised by chilliness and the absence of animal heat.

Clinical Observations.—*Noack and Trincks* (op. cit.) state that this drug has a powerful action upon the brain, respiratory organs, lymphatic vessels, secretion of urine, the skin, the serous and fibrous tissues, muscles and bones, etc. Diseases with great deficiency of animal heat, and predominant coldness. Acute and chronic rheumatic and gouty affections of the joints and ligaments, accompanied by stinging, aching, and tearing pains, worse at night, and aggravated by movement and warmth, with hot swelling and numbness of the limbs, with arthritic swellings and nodosities (*Trinks*). Gout. Arthritis nodosa. Acute and chronic rheumatism of the joints. Nightly rheumatic pains in the knees. Œdema of the feet. Itching of the whole body. Dry itching. Herpes in the face and bend of the knees. Spots on the forehead and face, as seen in drunkards. Boils on the forehead. Tic douloureux. Diabetes (*Hartmann*). Hooping-cough in the second stage. Hæmoptysis(?). Phthisis pituitosa (*Rau*). Palpitation of the heart, connected with rheumatic affections. Hot inflammatory swelling of the thighs, with stinging, tensive pains, etc. etc.

ANTIDOTES.—When this medicine has been improperly selected, or been given in too powerful doses, its action is destroyed by frequently inhaling camphorated spirits, or by repeatedly taking a single drop of it; but Quinine, given on account of the weakness that often ensues, is very injurious (*Hahnemann*, op. cit.)

XLI.

LYCOPODIUM* CLAVATUM.

Club Moss, Wolf's Claw.

Synonyms.—Muscus terrestris repens, *Trag.; Bauhin*, p. 766. Muscus clavatus, *Lobel., Icon. Stirp.*, t. 281. Muscus squamosus vulgaris. Muscus ursinus vel Pes ursinus, *Gesn.* Lycopodium, *Dod.* Pes leoninus, *Lob.* Lycopodium clavatum, *Linn.*, etc. Plicaria.

Foreign Names.—*Fr.:* Pied de Loup, Lycopode. *Germ.:* Gemeines Bürlapp, oder Kalben-moos, Johannisgürtel, Mörsame, Hesen-mehl, Wurm-mehl, Blitzpulver, Moospulver. *San.:* Wolfklann. *Ital.:* Licopodio. *Span.:* Licopodio. *Dan.:* Ulvefoed.

Nat. Order, Musci, *Juss.;* Lycopodiaceæ, *De Cand.*
Syst. Sex., Cryptogamia, Filices.

Gen. Char.—*Capsules* one-celled, some two-valved, including a fine powdery substance; others three-valved, containing a few large grains or seeds (*Hooker and Arnott*).

Spec. Char.—*Spikes* in pairs, cylindrical, eroso-dentate. *Stem* creeping. *Branches* ascending. *Leaves* scattered, incurved, and hair-pointed (*E. B.*)

History.—Lycopodium was used medicinally for disorders of the stomach by the Arabian physicians, mixed with other ingredients. Tragus also states that it was of the greatest service in dispersing calculi. In Poland it is used as a remedy for plica polonica. It is collected in considerable quantities in Germany, under the name of Lycopode, or vegetable sulphur, to produce

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Fig. 1. Scale of a spike, with a capsule magnified. 2. A capsule. 3. Termination of a leaf.

* The name is derived from λυκος, a wolf, and πους, a foot.

H. Sowerby, del. et. lith.

F. Reeve, imp.

Lycopodium clavatum.

false lightning in theatres, and in the manufacture of fireworks, the dust being highly inflammable. A species of this plant (*Lycopodium selago*) was employed by the Druids as a powerful cathartic. Such is its rejection of moisture, that if scattered over the surface of water in a basin, any substance may be picked from the bottom without wetting the hand.

Medicinally it has been employed in allopathic treatment as an external application to erysipelatous parts, and to children to prevent chafing. Bergius, Wislicenus, and others, have recommended its employment in calculous affections, retentio urinæ, gout, etc.

Description.—*Roots* of several strong, scattered fibres. *Stems* procumbent, trailing, branching, leafy, several feet in length. *Leaves* crowded, curved upwards, linear-lanceolate, flat, ribless, smooth, deep green, partly serrated, tipped with a capillary point; those of the branches erect, the upper ones loosely dispersed. *Spikes* terminal, usually in pairs, rarely one or three, densely beset with shortened, dilated, ovate, entire, long pointed *leaves* or *scales*, in whose bosoms the small sulphur-coloured capsules (thecæ) are situated (*Smith*).

Geographical Distribution.—Over the whole of Europe, especially in Russia and Finland. North America.

Localities.—On dry heaths and pastures; in woods. It is found on Hampstead Heath.

Parts used in Medicine, and Mode of Preparation.—"The Pollen or Powder, which is sold in the shops under the name of Sporulæ Lycopodii, Semina Lycopodii, Wichmeal, or Vegetable Sulphur. It consists of granules, usually regarded as sporules, but by some considered to be grains of pollen. They are gathered towards the end of the summer, and are separated by sifting. Lycopodium is a very fine, odourless, tasteless, and very mobile powder, of a pale yellow colour. It adheres to the fingers, but exhibits a repulsive force for water. If shaken with water a portion of it sinks; with spirits of wine it is readily miscible. It is tinged brown by iodine; when

thrown into the flame of a candle it burns with great rapidity: when moistened by alcohol or, still better, by oil of vitriol, and examined by the microscope, the granules are found to have the shape of tetrahedrons, with a convex base, the external membrane forming reticular elevations, giving a cellular appearance to the granules. The sporules, as analysed by Buchholz and by Cadet, give *Fat oil*, 6·0; *Sugar*, 3·0; *Mucilaginous extract*, 1·5; and *Pollenin*, 89·5. The substance called *Pollenin* is, however, a complex, organized body, and cannot be regarded as a proximate principle. By the action of caustic potash on Lycopodium, acetic acid can be obtained. As met with in the shops, Lycopodium seems to be free from adulteration.

"The sporules of other species of Lycopodium are said sometimes to be substituted for those of L. clavatum, the microscope alone can detect the difference. The pollen of some plants, as of Typha latifolia, and of some coniferous plants, is said to be sometimes substituted for Lycopodium sporules, the microscope readily distinguishes the substitution; the shape, size, and character of the surface, and the cohesion or isolation of the grains must be attended to in distinguishing them. The pollen of coniferous plants is also sometimes recognisable by its terebinthinate odour when rubbed in the hand; that of Typha latifolia is not so inflammable as genuine Lycopodium meal. Starch, talc, gypsum, chalk, boxwood powder, etc. etc., have been reported as adulterating substances. By throwing the suspected Lycopodium on water, the mineral substances present would readily fall to the bottom, and might be detected by their appropriate tests. Iodine and the microscope will detect starch. Boxwood powder has been separated by a fine sieve, which lets the genuine sporules through, but retains the woody particles" (*Percira, Mat. Med.*, vol. ii. pt. 1, 3rd edit., p. 965).

The three first attenuations are made by trituration.

Physiological Effects.—It is generally considered inert in its action, until it has been acted upon by trituration; but

Pereira and others state that the pollen exerts an irritating effect on the mucous lining of the alimentary canal, and produces purging, etc.

MEDICAL USES (HOMŒOPATHIC).—Hahnemann states that the wonderful medicinal properties of this drug can only be disclosed by trituration and succussion.

CLINICAL OBSERVATIONS.—From the latest experience it appears that this remedy is especially adapted to individuals (more especially women) with soft, mild, and melancholy dispositions, to lymphatic and leuco-phlegmatic constitutions, and when they are, moreover, subject to mucous discharges, coryza, catarrh, etc.; and, amongst others, chiefly in affections with aggravations of the symptoms in the afternoon and in a room, with amelioration in the open air. Great sensitiveness to open and cold air. Typical periodical diseases. Diseases with paroxysms of pain, causing great uneasiness, restlessness, and moaning. Diseases with deficiency of vital heat. Diseases with symptoms of obstruction of the portal system. Diseases with inclination to dropsy and affections of the urinary organs (*Segin*). Scrofula ossea (*Leon Simon*). Syphilis secundaria (*Hartmann, Goullon*). Periostitis and ostitis, with nightly pains, brought on by mercury. Rheumatic fever (*Schelling*). Drawing and tearing pains in the limbs in stormy weather. Great liability to cold. Cramps in the muscles. Cramps in the fingers and calves of the legs. Violent burning itching over the whole skin and in different parts, especially in the evening and in bed. Chronic impetigo. Impetigo figurata (*Rummel, Schroen*). Humid suppurating herpes, full of rhagades, and covered with thick crusts (*Hartmann*). Chlorosis. Nervous fevers, characterised by ill humour on awaking, etc. Debilitating night-sweats. Absence of mind. Nervous chronic headache (*Müller*). Rheumatic headache. Falling off of the hair after illness. Tinea capitis favosa (*Knorre*). Eruptions on the head, with violent suppuration and coherent thick crusts, forming one mass with

the hair, violently itching, with swelling of the glands of the nape of the neck. Humid tinea behind the ears, and pustules in the nape of the neck. Plica polonica. Catarrhal rheumatic inflammation of the eyes. Spasmodic twitching of the eyelids. Cloudiness of the crystalline lens, with amenorrhœa (*Diez*). Otorrhœa purulenta, with deafness and ichorous eruptions on the head (*Althen*). Caries of the ossicula aureum and of the internal ear after scarlatina. Chronic singing in both ears, with diminution of hearing (*Diez*). Catarrhs of all kinds. Catarrhal inflammation of the Schneiderian membrane. Chronic blennorrhœa of the same. Itching, ichorous eruptions of the face, covered with elevated spots (*Trinks*). Crusta lactea (*Knorre, Schroen*). Sycosis menti (*Schroen*). Chronic inflammation and induration of the amygdalæ. Chronic gastritis. Chronic vomiting. Heartburn. Want of appetite. Canine hunger. Ascites. Chronic constipation. Diseases of the urinary organs. Pollutiones debilitantes. Soreness and excoriation of the mammæ. Intertrigo neonatorum. Constipation of new-born infants. Pneumonia (*Hartlaub, Schleicher*). Chronic, dry cough. Palpitation of the heart. Struma. Rheumatic pains in both upper and lower extremities. Œdema of the feet. Ice coldness of the feet, etc. etc. (*Noack and Trinks*, op. cit.)

Antidotes.—Camphor and Coffea. *Camphor* generally moderates the violent effects of Lycopodium. *Pulsatilla* subdues the violent feverish feelings caused by Lycopodium. *Causticum* modifies the ill humour, readiness to find fault, diffidence, tendency to reproach, etc. A cup of coffee prevents, and completely neutralises the action of Lycopodium.

Dáphne Mezéreon.

A.W. del. A.M. Traice, lith:

Tho^s Harrild. imp

XLII.

MEZEREUM.

(DAPHNE MEZEREUM.)

Common Mezereon, or Spurge Olive.

SYNONYMS.—Chamælea Germanica sive Mezereon, *Ger. Em.*, 1402. Daphnoides, *Math. Vulg.*, vol. ii. p. 557; *Fuchs. Hist.*, 227; *Camer. Epit.*, 937. Thymelæa, *Hall Hist.*, 227. Daphne Mezereum, *Lin.*, *Sp. Pl.*, 509; *Willd.*, vol. ii. p. 415; *Fl. Brit.*, 420; *Fl. Dan.*, t. 268, etc. etc.

FOREIGN NAMES.—*Fr.:* Lauréole Gentile, Bois de Gentil. *Ital.:* Laureola femina, Mezereo, Daphnoide, Biondella. *Span.:* Laureola hembra. *Port.:* Mezereo major. *Germ.:* Seidelbast, Kellerhals. *Dut.:* Peperboomge. *Swed.:* Tibast. *Dan.:* Kielderhals. *Russ.:* Boltschnik, Woltschge luko.

Nat. Order, THYMELEÆ, *Juss.*, *De Cand.*; VEPRECULÆ, *Linn.*—OCTANDRIA, MONOGYNIA.

GEN. CHAR.—*Calyx* inferior, monosepalous, resembling a corolla, tubular, withering, tube cylindrical, longer than the limb, closed, containing the stamens; limb in four deep, egg-shaped, spreading, coloured segments. *Corolla* none. *Filaments* eight, short, in two rows from about the middle of the tube. *Anthers* roundish, two-celled, upright, contained within the tube. *Germen* superior, egg-shaped. *Style* very short, terminal. *Stigma* capitate, depressed, entire. *Berry* oval, of one cell. *Seed* solitary, pendulous, oval, large, with a thin, brittle skin, distinguished from other genera with apetalous flowers, in the same class and order, by the coloured, inferior, four-cleft *calyx* and single-seeded *berry (Baxter)*.

SPEC. CHAR.—*Flowers* lateral, sessile, about three together, appearing before the spear-shaped, deciduous leaves *(Id.)*

Fig. 1. Calyx, stamens, and pistils. 2. Germen, style, and stigma. 3. Vertical section of the berry. The figure is drawn from nature, the dissections taken from Baxter.

History.—Some doubts exist as to whether the Mezereum was known or used as a remedy by the ancients. Pereira (op. cit.) states that Tragus is the earliest author who mentions this plant. Adams (*App. to Dunbar's Lexicon*) has the following: "Dodonæus states correctly, that Serapion and Avicenna confounded both the Chamælea and Chamæleon together, under the name of Mezereon; and it must be admitted that the learned commentators on the Arabian medical authors have not been able entirely to remove this perplexity. According to Sibthorpe (*Prod. Flor. Græc.*), the Daphne oleoides is the species which has the best claim to be identified with the ancient Chamælea. Matthiolus and the writer of the article on Botany in the Encyclopédie Méthodique refer it to the Cneorum tricoccon.

"Notwithstanding the difference of opinion which has prevailed among the commentators regarding this plant, we see no good grounds for doubting that it was the Daphne Mezereon, which we believe to have been naturalized in this country by the Romans for its medicinal uses. Dioscorides says of its leaves, that they are like those of the olive, but more slender and thick, biting to the taste, and scarifying the trachea. Its leaves, he adds, purges phlegm and bile downwards, especially if taken in a pill with double the quantity of southern-wood, mixed with one part of the Chamælea; let it be taken in water or honey as a pill; but it is insoluble, for it is evacuated as it is taken. The powdered leaves mixed up with honey cleanse foul ulcers and such as are covered with eschars (iv. 169). We do not meet with it in the works of Hippocrates nor of Celsus. Galen and the other Greek authorities treat of it in very general terms, like our author. Beyond all doubt is this the *Mezereon* of Serapion, who commences his chapter on it by giving extracts from the descriptions of the *Chamelæa* given by Dioscorides, Galen, and our author. He then gives a very lengthy account of it from the Arabian authorities, first from Alcanzi, and next from Aben Mesuai, which we regret that

our necessary limits prevent us from giving a proper abstract of. He says that persons of gross constitution, and more especially old men, bear this medicine best, and he recommends us to administer it with myrobolans, or tamarinds, or prunes. He further directs it to be given in water that has been boiled. Altogether there is not a more important chapter in Serapion than the one on Mezereon (c. 373). Mesne also gives a very interesting account of the Mezereon, which he illustrates with extracts from Dioscorides and Galen on the Chamælea. Rhases describes the two Chamæleons and the Chamælea together, under the head of Laureola. He quotes "the Book of Poisons" as stating, that in the dose of two drachms it proves fatal. Avicenna, in like manner, describes the two Chamæleons and the Chamælea under the head of Mezereon, but evidently recognised the distinction between the last and the first two. He recommends it particularly in dropsy. The above sketch, it will be remarked, clearly proves the identity of the Χαμέλαιχ of the Greeks, and the Mezereon of the Arabians. We admit, however, that it does not prove their identity with the *Daphne Mezereon*. To us it appears, however, that the physiological effects of the Mezereon, as described by our best authorities of the present day, correspond very well with the effects of the Chamælea or Mezereon, as described by Dioscorides and Serapion (*Commentary in Paulus Æginetа, translated by Francis Adams for the Sydenham Society*, b. vii. p. 410.)

Gerarde says: "Also if a drunkard do eate one graine or berrie of this plant, he cannot be allured to drinke any drinke at that time; such will be the heat of his mouth and choking in the throate."

As a medicine under the old school it is seldom employed. It has been recommended by Dr. Donald Monro, Drs. Russell, Fothergill, and others, as very efficacious in curing venereal nodes, scirrhous tumours, obstinate ulcers, and severe affections of the skin. Cullen used it in some cutaneous affections with success. It has also been employed in chronic rheumatism and

gout. Tragus employed it for the cure of unclean ulcers. Paracelsus for dropsy.

Dr. Withering (*A Botanical Arrangement of British Plants*, vol. i.) gives the following case of cure by this plant. He says: "The considerable and long-continued heat and irritation that it produces in the throat when chewed, made me first think of giving it in a case of difficulty of swallowing, seemingly occasioned by a paralytic affection. The patient was directed to chew a thin slice of the root as often as she could bear to do it, and in about two months she recovered her power of swallowing. This woman bore the disagreeable irritation and the ulcerations its acrimony occasioned in her mouth with great resolution; but she was reduced to skin and bone, and for three years before had suffered extremely from hunger, without being able to satisfy her appetite, for she swallowed liquids very imperfectly, and solids not at all. The complaint came on after lying-in.

In France the bark is used to produce vesication, and to keep up the formation of pus from issues. It has also been used by others in scrofulous affections, toothache, and some affections of the eyes, chronic ophthalmia, etc.

Description.—Daphne Mezereum is a shrub. Flowers in February and March. The *stem* is bushy, four or five feet high, with upright, alternate, smooth, tough, and pliant branches, which are leafy while young. *Leaves* scattered, stalked, spear-shaped, smooth, about two inches long, appearing after the flowers, and soon accompanied by flower-buds for the next season. The *flowers* come out very early in the spring, before the leaves appear, and are situated on the shoots of the former year, in little tufts, which are often so thickly placed as to entirely conceal the branches. *Bracteas* several, egg-shaped, smooth, brown. *Corolla*, none. *Calyx* or *perianthium* like a corolla in texture, of a beautiful crimson colour; the tube hairy on the outside. *Berries*, when ripe, scarlet. The Mezereon is one of our most early flowering shrubs, and one

of the greatest ornaments to our gardens in the months of February and March, when it is, as Cowper says—

"Though leafless, well attired and thick beset
With blushing wreaths, investing every spray."

The flowers are very sweet-scented, and where there are many together they will perfume the air to a considerable distance. It is observed by Mr. Phillipps, that "Nature, whose works never cease to excite our admiration, astonishes us by the wonders contained in the buds of this plant, where not only the flowers but the parts of fructification may be distinctly seen the year before they unfold themselves. This is corroborated by Mr. Baxter, from whose work on British Phænogamous Botany this description is taken.

Geographical Distribution.—Great Britain; Central and Northern Europe; northern parts of Asia; North America.

Localities.—In woods. In this country rare. *Oxfordshire:* in Wychwood Forest. *Berks:* Appleton Common. *Derbyshire:* Matlock, Cheetor. *Dorsetshire:* parts of Cranborne Chase. *Durham:* Tunstall Hills, south of Sunderland. *Gloucestershire:* Painswick. *Hants:* Selborne Hanger; Woods near Andover. *Kent:* in some places. *Somersetshire:* in Brass-knocker Wood, near Bath. *Staffordshire:* in Needwood Forest. *Wilts:* about Great Bedwyn. *Worcestershire:* about Earlham and Stanford. *Yorkshire:* Oldfield Wood, near Ripon; on an island in the Swale. It is collected for medicinal purposes in Kent and Hampshire.

Parts used in Medicine, and Mode of Preparation.—The Bark, taken from the plant before the appearance of the leaves and flowers. The bark is tough, pliable, and fibrous; externally, brown and corrugated; internally, white and cottony. Its taste is at first sweetish, afterwards highly acrid; it has no odour. In Germany, the bark of the stem and larger branches is removed in spring, folded in small bundles, and dried for medicinal purposes. In its preparation for homœopathic pur-

poses, the juice is expressed from the bark which has been *recently collected*, and mixed with equal parts of alcohol, and then attenuated to the fifteenth (v) dilution.

Physiological Effects.—*On Animals.* It is highly poisonous to dogs, wolves, and foxes. It is eaten by sheep and goats.

On Man.—All parts of the plant are very acrid, and act as an irritant and cathartic. In large doses it is a dangerous, irritant poison, causing redness and vesication of the skin, when left some time in contact with it, and exciting, when swallowed, dryness and burning in the throat, vomiting, hypercatharsis, and occasionally symptoms of irritation of the kidneys.

Linnæus (*Flora Suecia*, No. 338) reports that a young lady, labouring under intermittent fever, died from hæmoptysis in consequence of having taken twelve berries of the Daphne Mezereon, which had been given with the intention of purging her; and Vicat (*Histoire des Plantes Vénéneuses de la Suisse*, p. 140) states that an hydropic patient having taken the wood of Mezereon, was suddenly attacked with diarrhœa, which was continual, and accompanied with insupportable pains. He had besides, for six weeks, vomitings, which returned every day with extreme violence, although during the whole time proper remedies were employed to quiet them.

M. Blatin also narrates a case of a person who took a decoction of the root of Mezereon instead of marsh mallow. It occasioned violent pains in the stomach and intestines, accompanied by stinging, burning sensations in the skin, restlessness, loss of appetite, intense fever, and irregular action of the tendons.

An otherwise robust man took Mezereum internally for some complaints that he had. But as he continued the use of this drug, even after the disappearance of these complaints, he became affected with intolerable itching over the whole body, which did not allow him an hour's sleep. He discontinued the medicine; came to me thirty-six hours afterwards, and assured

me that he could no longer endure the itching, which increased every hour. The first direct action of Mezereum lasts very long. I gave him thirty grains of camphor, to be taken every six hours, and before he had taken it all the itching had disappeared.*

Medical Uses (Homœopathic).—Hahnemann (*Mat. Med. Pura*) states that this drug has been found useful in humid, itching eruptions on the head and behind the ears; ophthalmia; leucorrhœa of many years' standing; shortening of the lower limb; nightly itching of the body.

Clinical Observations.—*Noack and Trinks* (op. cit.): Mezereum seems to be suitable in that state in which the attacks of disease are accompanied with shivering and cold, and when there is great sensibility to cold air, especially in robust, veno-bilious or sanguine temperaments, and in scrofulous individuals. In scrofulous affections, with swelling of the glands. Inflammation, softening and caries of the bones. Swelling of the bones (*Hartmann, Schüler, Rummell*). Nightly itching over the whole body (*Hahnemann*). Periostitis of the tibia, the parts being covered with a brown, dry skin, and surrounded with reddish-blue spots, with violent, burning pains, caused by the slightest pressure of the finger (*Theile*). Tinea. Crusta lactea (*Diez*). Eczema mercuriale. Chronic prosopalgia (*Dufresne*). Prosopalgia, with cramping, stupifying pressure on one side of the face, commencing at the zygoma and spreading over the temples, coming on after eating warm things (*Bönninghausen*). Violent toothache in a hollow tooth, with feeling of chilliness during the pain. Catarrh, with nightly exacerbation. Burning in the throat. Oppression of the chest. Pricking pain in the chest, with great anguish. Paleness of the face. Continued chilliness, sometimes cold sweat. Constant thirst. Tongue coated white (*Kirsten*).

Antidotes.—Vinegar. Camphor. Mercurius. According to Hahnemann, Wine and Coffee have no effect on the action of Mezereum.

* Hahnemann's Lesser Writings, translated by R. E. Dudgeon, M.D.

XLIII.

NUX MOSCHATA.

(MYRISTICA MOSCHATA.)

The Nutmeg-tree.

SYNONYMS.—Nux Moschata, fructu rotundo, *Bauh.* Πιν., 407; *Pluk. Phyt.*, t. 219. Nux Myristica seu Pala, *Rumph. Herb. Amb.*, vol. ii. p. 14, t. 4. Myristica aromatica, *Lam. act. Tran.* 1788, p. 155, t. 5—7; *Lam. Dict.*, v. 4; *Roxb. Pl. of Coromandel*, vol. iii. t. 267. Myristica officinalis, *Linn. Suppl.*, p. 265; *Gært. de Fruct.*, vol. i. p. 194, t. 41. Myristica Moschata, *Willd.*, *Sp. Pl.*, vol. iv. p. 869; *Sprengel, Syst. Veget.*, vol. iii. p. 64.

FOREIGN NAMES.—*Fr.:* Le Muscadier, Noix muscade, Muscades. *Ital.:* Noce moscada. *Span.:* Nuz moscada, Moscada. *Port.:* Noz moschada. *Germ.:* Muskat nüsse, Aromatische nüsse. *Dut.:* Muskaat noten. *Swed.:* Muskott. *Dan.:* Muskatnöd. *Russ.:* Mushkatnoi orechi. *Arab.:* Jowzal-teel. *Pers.:* Jouzbewa. *Tam.:* Jodicai. *Hind.:* Jaephal.

Nat. Order, LAURINEÆ, *Juss.*; MYRISTICEÆ, *Brown*; HOLORACEÆ, *Linn.*—DIŒCIA, MONADELPHIA.

GEN. CHAR.—*Flowers* diœcious. *Calyx* urceolate, three-toothed. *Males:* *Filaments* monadelphous. *Anthers* six to ten, connate. *Females:* *Ovary* simple. *Style* none. *Stigma* two-lobed. *Pericarp* fleshy, two-valved, one-seeded. *Seed* enveloped in a fleshy axil (*Lindley*).

SPEC. CHAR.—*Leaves* oblong, acuminate, smooth, whitish beneath, and with simple nerves. *Peduncles* one to four-flowered.

HISTORY.—It is very doubtful if the ancients were acquainted with this tree. According to Sprengel, Stackhouse, and Schneider, the Κωμακον of Theophrastus is the Nutmeg-tree. Dr. Royle (*Antiq. of Hindoo Med.*, p. 106) differs from this

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Fig. 1. Section of the male flower. 2. Section of the female flower. 3. A magnified anther. 4. The embryo magnified. 5. The mace. 6. The nutmeg (seed).

Nux Moschata.

A.W. del. A.M. Trance, lith.

Tho.s Harrild, imp.

opinion, and thinks that Comacum (of which there were two kinds, one a fruit, and the other employed for mixing with the most precious ointments) is the fruit of the cinnamon plant, and the fatty oil expressed from it. Others have considered the Χρυσο βαλανος of Galen to be the Nutmeg, which Sprengel refers to the nut of the Semecarpus Anacardium. The first authentic account of the Myristica Moschata is in Avicenna. He describes both mace and nutmegs (lib. ii. tract. ii. cap. 456, 503); he calls it Jransiban, or Nut of Banda. In early times it was used as a cosmetic to remove freckles from the face; and Gerarde states that it quickeneth the sight; is good for feeble livers; it taketh away the swelling in the spleene, and is good against all cold diseases of the body. Quincy (*Eng. Disp.*, 1742, p. 77) says, that it is a great comforter of the head and stomach, and likewise a good carminative, by its warm, discussing quality; but it is to be used sparingly, for if in too large a quantity, it will fume up too much and prove offensive, in the same manner as perfumes do to some particular constitutions. Although it has been employed in earlier days for various diseases, more particularly those of the nervous and mucous systems, as in hysteria, spasms, nervous fever, amaurosis, nervous headache, diarrhœa, palpitation of the heart, yet its principal use at present is for dietetic purposes. It is, however, an important ingredient in the confectio aromaticæ, so frequently employed in allopathic medicine as a cordial and antacid in bowel complaints.

Description.—This tree rises from twenty to thirty feet in height, and in appearance resembles a pear-tree. The *bark* is a dark greyish-green, smooth, with a yellowish juice. *Leaves* aromatic. *Racemes* axillary. *Peduncles* and *pedicels* glabrous, the latter with a quickly deciduous, ovate bract at its summit, often pressed close to the flower. *Male flowers* three to five, on a peduncle. *Calyx* fleshy, pale yellow, with a reddish pubescence. *Female flowers* scarcely different from the male, except that the pedicel is frequently solitary (*Pereira*).

Geographical Distribution.—The Molucca Islands, especially the island of Banda. The Dutch have endeavoured to confine the Nutmeg-tree to three of the little clusters of the Banda Islands, viz., Pulo Ay, Banda, and Nera. According to Dr. Ainslie, the Nutmeg has of late years been cultivated at Batavia, Sumatra, and Penang. An inferior and long-shaped kind of Nutmeg is common in the island of Borneo; and there is a wild sort frequently met with in the woods of Southern India, especially in Canara, which Dr. Buchanan thinks might be greatly improved by cultivation; this is the Myristica tomentosa of Willdenow; the Nux Moschata fructu oblongo of Caspar Bauhin, and the Nux Moschata mas oblongior of Lobel.

Parts used in Medicine, and Mode of Preparation.—The Nut (formerly called the Female Nutmeg, Nux Moschata fœmina, *Clusius*). The finest sorts (and these only ought to be chosen for homœopathic purposes) are small, short, nearly round, heavy, externally marked with reticulated furrows, and white, from having been dipped for preservation in milk of lime. Internally greyish-red, and beautifully marbled with darker, brownish-red veins, from which oil may be easily expressed with the point of a warm knife. A less-esteemed sort is larger, longer, lighter, less marbled, and not so oleaginous, these latter are sometimes called Male Nutmegs (Nux Moschata mas, *Clusius*); those which are light, worm-eaten, and marbled with black lines ought to be rejected. Both have a strong, peculiar, grateful odour, and a powerful, bitter, aromatic taste. The powder is greyish-brown, and somewhat fatty. Nutmegs are imported without their shell, a practice which renders them more liable to decay or injury from insects, and which originated in the precautions taken long ago by the Dutch, to prevent the tree from being propagated elsewhere than in the Spice Islands. To make the homœopathic preparation, the nutmeg must be first cleansed of the milk of lime which adheres to its external surface, and then one part of the

nut must be reduced to powder, mixed with twenty parts of alcohol, and put aside for a week, being shaken twice every day. To twenty drops of this mixture are to be added eighty drops of alcohol, and the usual dilutions made.

Physiological Effects.—The activity of Nutmeg depends on the volatile oil which it contains. Swallowed in moderate doses, it produces the common effect of spices. In large doses, it proves narcotic, and causes giddiness, delirium, præcordial anxiety, sleepiness, and actual stupor (*Cullen, Mat. Med.*, vol. ii. p. 204). A person by mistake took two drachms or a little more of powdered Nutmeg, he felt it warm in his stomach, without any uneasiness; but in about an hour after he had taken it, he was seized with drowsiness, which gradually increased to a complete stupor and insensibility, and not long after he was found, having fallen from his chair, lying on the floor of his chamber, in the state mentioned. Being laid a-bed he fell asleep, but waking a little from time to time, he was quite delirious, and he thus continued, alternately sleeping and delirious, for several hours. The day after he was quite in his ordinary health.

Medical Uses (Homœopathic).—We owe our knowledge of this remedy as a homœopathic medicine to the provings of C. G. Helbig (*Heraclides*, Heft 1). It seems that Nux Moschata exerts its action more particularly on the cerebrum and cerebellum; the spinal cord; the nerves of sense and motion. On the ganglionic system; on the pneumogastric, and nerves of the abdominal viscera. Hahnemann remarks that the Nutmeg "diminishes the irritability of the whole body, but especially that of the primæ viæ, for a considerable time. (Does it not increase the contractile power of the muscular fibre, especially of the primæ viæ, and diminish its capability of relaxing?) In large doses, it causes an absolute insensibility of the nervous system, obtuseness, immobility, loss of reason, for its direct action; headache and sleep, for its secondary action. It possesses healing properties. May it not be useful in im-

becility, combined with laxness and irritability of the primæ viæ—against the first as a similarly, against the second as an antagonistically acting remedy? It is said to have done good in paralysis of the gullet, probably as a similarly acting remedy."*

Clinical Observations.—*Noack and Trinks:* Nux Moschata has cured hypochondriasis and hysteria (*Molin, Journ. de la Doct. Hom.*, 1840). Loss of memory. Weakness of memory. Nervous vertigo (*Trinks*). Tearing, pressive, beating headaches. Neuralgia capitis, with tearing, burning pain under the right eye, and spasmodic movement of the lower jaw. Most violent pain in the teeth, of a pressing, burning, drawing character, alleviated for the time by external warmth. Convulsive movement of the head from behind and forwards, with difficulty of speech and swallowing, accompanied with violent, drawing, dragging pains in the nape of the neck in a female (*Molin*, l. c.) Dyspepsia (*Peschier, Bib. Hom*, v.) Swelling and distension of the lower bowels as if from wind. Enormous distension of the lower bowels after eating, with nervous irritation of the intestinal canal (*Molin*, l. c.) Mucous diarrhœa. Chronic diarrhœa, originating in cold, and from atony and weakness of the intestines. Metrorrhagia (*Gross, Arzn.*, l. xxii. p. 212). Prolapsus uteri et vaginæ. Hoarseness. Catarrh, with hoarseness and a sensation of roughness in the trachæa and chest. Rheumatic nervous pains in the back, sacrum, and lower limbs, etc.

Antidotes.—According to Helbig, Caraway: Camphor. Nux Vomica, and Opium.

* Lesser Writings, translated by R. E. Dudgeon, M.D.

Nux Vomica.
(Strychnos Nux Vomica.)

A.M. Trance, lith.

T. Harrild Imp

XLIV.

STRYCHNOS* NUX VOMICA.

Poison Nut.

SYNONYMS.—Nux Vomica officinarum, *Bauh.* Πιν., 511; *Raii Hist.*, 1814; *Ger. Em.*, 1546. Solanum arboreum indicum maximum, *Breyn. Prod.*, 97. Caniram, *Rheede Hort. Malab.*, vol. i. p. 67, t. 37. Strychnos Nux Vomica, *Linn. Sp. Pl.*, 271; *Willd.*, vol. i. p. 1052; *Roxb. Corom.*, vol. i. p. 8, t. 4.

FOREIGN NAMES.—*Fr.:* Noix Vomique. *Ital.:* Noce Vomica. *Span.:* Mataperros. *Port:* Noz Vomica. *Germ.:* Krähenaugen, Brechnusse. *Dut.:* Braaknooten. *Dan.:* Brœknod. *Swed.:* Rafkaka. *Arab.:* Leugralke, Kaukulkell. *Tam.:* Yettie cottay. *Tel.:* Musadi. *Sans.:* Veshamoostcheegum. *Hind.:* Koochla. *Chin.:* Ma-tseen. *Mal.:* Caniram.

Nat. Order, LURIDÆ, *Linn.*; APOCYNEÆ, *Juss.*, *De Cand.*, *etc.*—PENTANDRIA, MONOGYNIA.

GEN. CHAR.—*Calyx* four to five-partite. *Corolla* tubular, with a spreading, four to five-cleft limb, and a valvate æstivation. *Stamens* four to five, inserted into the throat of the corolla, which is either naked or bearded. *Ovary* two-celled, with indefinite ovules attached to a central placenta. *Style* one. *Stigma* capitate. *Berry* corticated, one-celled, many-seeded, or, by abortion, one-seeded. *Seeds* nodular, discoidal. *Albumen* large, cartilaginous, almost divided into two plates. *Embryo* with leafy cotyledons (*Lindley*).

SPEC. CHAR.—*Leaves* opposite, three and five-nerved, oval, lurid. *Berries* many-seeded (*Roxburgh*).

Fig. 1. The corolla cut open, showing the anthers (magnified). 2. The germen, pistil, and calyx. 3. The nut. 4. Section of the fruit. The figure and dissections are from Hayne.

* The systematic name Strychnos, which occurs in Pliny and Dioscorides, is derived from στρωννυμι, to strew or to overthrow, in allusion to the powerful effects of the plant to which it is assigned, the Στρυχνος of the Greeks, being a kiud of *night-shade*. It was Linnæus who adopted this name for the present genus, on account of the analogy of its poisonous qualities with the plant of the ancients.

History.—The Arabians first introduced Nux Vomica as a medicinal agent. Serapion describes the bean of the Strychnos St. Ignatii as Nux Vomica, and it is probable that his Nux Mechil is the Nux Vomica of the moderns. Gerarde says: "Avicen and Serapio make Nux Vomica and Nux Methel to be one, whereabout there hath beene much cavilling; yet the case is plaine, if the text be true that the thorne apple (*Datura Stramonium*) is Nux Methel. Avicen affirmeth the Vomiting Nut to be of a poisonous qualitie, cold in the fourth degree, having a stupefying nature, and bringeth deadly sleep." He goes on to state: "Of the phisical vertues of the Vomiting Nuts, we thinke it not necessarie to write, because the danger is great, and not to be given inwardly, but mixed with other compositions, and that verie curiously by the hands of a faithfull apothecarie." According to Dr. Christison, it has been used as a medicine from time immemorial, by the natives of Hindostan. Formerly, owing probably to its poisonous effects, Nux Vomica was very sparingly employed as an internal remedy. Dr. Woodville (*Med. Bot.*, 1794) says: "In Britain, where physicians seem to observe the rule *saltem non nocere* more strictly than in many other countries, the Nux Vomica has been rarely, if ever, employed as a medicine. On the Continent, however, and especially in Germany, they have certainly been guided more by the axiom 'what is incapable of doing much harm is equally unable to do much good.' The truth of this remark was lately very fully exemplified by the practice of Baron Stoerck, and is further illustrated by the medicinal character given of Nux Vomica, which, from the time of Gesner till that of modern date, has been recommended by a succession of authors as an antidote to the plague, as a febrifuge, as a vermifuge, as a remedy in mania, hypochondria, hysteria, rheumatism, gout, and canine madness.

"In Sweden it has of late years been successfully used in dysentery; but Bergius, who tried its effects in this disease, says that it suppressed the flux in twelve hours, which after-

wards returned again. A woman, who took a scruple of this drug night and morning, two successive days, is said to have been seized with convulsions and vertigo. Notwithstanding which, the dysenteric symptoms returned, and the disorder was cured by other medicines; but a pain in the stomach, the effect of the Nux Vomica, continued afterwards for a long time. Loureiro recommends it as a valuable internal medicine in fluor albus; for which purpose, he roasts it till it becomes perfectly black and friable, which renders its medicinal use safe without impairing its efficacy."

In allopathic therapeutics, it has been employed in a variety of diseases: viz., by *Wiel* and *Hartmann*, in different forms of rheumatism and gout. By *Scudamore*, in neuralgia. By *Thebesius*, *Sundelin*, *Bocher*, in hydrophobia. By *Horn*, in epilepsy; in general and periodic convulsions; tonic, clonic, and hysterical convulsions. By *Richter*, in catalepsy. By *De Candolle*, *Magendie*, *Fouquier*, and many others, in different forms of paralysis. By *Wedel*, *Büchner*, *Marcus*, *Hannstrom*, and others, in ague. By *Alston*, in mania. By *Junghaus*, *Thebesius*, etc., in melancholia, hypochondriasis, and hysteria. In hemicrania and nervous headaches, by *Hartmann*, *Kopp*, etc. In amaurosis, by *Magendie*. In prosopalgia Fothergillii, by *Scudamore*. In chronic vomitings, with disorganization of the stomach, especially the pylorus, by *Schmildman*. In pyrosis, by *Mellor*. In colic, painful spasms of the bowels, by *Schultze*, *Montnus*, etc. In colica hysterica, by *Sidren*. In dysentery of different forms, by *Horn*, and others. In passive chronic diarrhœa, by *Hufeland*. In symptomatic diarrhœa in typhus, by *Voigtel*. In paralysis of the bladder, by *Magendie*, etc. etc.

DESCRIPTION.—A tree of considerable size. The *stem* short and crooked; the younger branches have a knotted appearance, and are covered with a dark green bark. The *bark* of the trunk is grey, and covered with small excrescences. The *wood* is white and tough. The *leaves* are oval, shining, entire, gene-

rally five-nerved and leathery; the larger leaves are four inches in breadth. The *flowers* small, greenish-white, and terminate. The *branches* in a kind of fasciculated umbel, and they have a very disagreeable smell. The *calyx* is five-partite, tubular, deciduous. *Corolla* tubular, monopetalous; tube inflated at the middle and very long. *Stamens* five, inserted over the divisions of the corolla. *Ovarium* two-celled. *Style* the length of the corolla. *Stigma* capitate. *Berry* round and smooth, about the size of a large apple, covered with a smooth, hardish shell, of a beautiful orange colour; when ripe, filled with a white, soft, gelatinous pulp, which is greedily eaten by birds. *Seeds* several (generally five), found in the pulp, and attached to a central placenta. These seeds are the officinal Nux Vomica.

Geographical Distribution.—A native of the East Indies; found very frequently on the Coromandel and Malabar coasts; in Ceylon, and the Eastern Archipelago.

Parts used in Medicine, and Mode of Preparation.—The Seeds (Nuces Vomicæ). These seeds, as found in the shops, are circular and flat, about an inch in diameter, slightly convex on one side, and concave on the other (the Germans call them Krähengen, or Crows' eyes), everywhere covered with fine satiny hairs attached to a fine covering, the outer coat (*testa*) of the seeds. The inner coat (*endopleura*) is very thin, and immediately envelopes the nucleus of the seed. "This nucleus is composed of two parts, viz., albumen and embryo. The *albumen* is bipartite, cartilaginous, or horny, of a dirty white colour, and of an intensely bitter taste, and has in its interior a cavity (*loculamentum verum*); unlike that of most seeds, the albumen of Nux Vomica is of a poisonous nature. The *embryo*, which is milk-white, is seated in the circumference of the seed; its locality being frequently indicated by a point somewhat more projecting than the surrounding parts. It consists of two large, cordiform, acuminated, triple-ribbed, very thin cotyledons, a distinct cauliculus, and a centripetal radicle (*i. e.*, a radicle directed towards the centre of the back). Pelletier and

Caventon's analyses of the seeds of Strychnos Nux Vomica gave the following: strychnic or igasuric acid; strychnia-brucia, in combination with strychnic acid; wax (a small quantity); concrete oil; yellow colouring matter; gum; starch (a little); bassorin; woody fibre; carbonate of lime and chloride of potassium in the ashes. The seeds are very difficult to reduce to a state of fine division. Powdered Nux Vomica has a fallow grey colour, a bitter taste, and a smell like liquorice. When burned at a low temperature, it sends forth a thick, white smoke, with this peculiar odour. It turns black with strong sulphuric acid; deep orange colour with nitric acid. Digested in boiling water, and a little sulphuric acid added, the liquor becomes turbid and yellow; ammonia makes it brown, and precipitates blackish flocks.

Hahnemann orders the seeds to be reduced to a fine powder, in a marble mortar, and fifty grains to be mixed with one thousand drops of alcohol, then to be placed aside in a cool place for a week; of this, one drop is to be mixed with five hundred drops of alcohol, and this constitutes the second attenuation; then dilute, as previously ordered, to the thirtieth attenuation. Another mode, and which by some is considered the best, is to make the first three attenuations by trituration, after having previously powdered the nut in a heated mortar.

Physiological Effects.—The seeds of the Strychnos Nux Vomica are poisonous, more or less, to all animated nature. Marcet (*An. Chim. et Phys.*, t. xxix.) states that a haricot plant died in twelve hours, after immersing the root in a solution of the extract of the seeds. Fifteen grains of the same extract were inserted into a lilac-tree and the wound closed; in thirteen days the leaves began to wither. On the vertebrated animals its effects are very uniform. Moiroud (*Pharm. Vét.*, p. 266), however, states that a much larger quantity is required to kill herbivorous than carnivorous animals. It produces in all tetanic convulsions, increased sensibility to external impressions, asphyxia, and death (vide *Orfila, Tox. Gén.*, vol. ii. p. 34).

Its effects on man are of the greatest interest to the homœopathist.

Pereira (op. cit.) has divided these effects into three degrees.* First degree: in very small and repeated doses, it usually promotes the appetite, assists the digestive process, increases the secretion of urine, and renders the excretion of this fluid more frequent. In some cases it acts slightly on the bowels, and occasionally produces a sudorific effect. The pulse is usually unaffected. In somewhat larger doses, the stomach not unfrequently becomes disordered and the appetite impaired.

Second degree: in larger doses, the effects of Nux Vomica manifest themselves by a disordered state of the muscular system. A feeling of weight and weakness in the limbs, and increased sensibility to external impressions (of light, sound, touch, and variations of temperature), with depression of spirits and anxiety, are usually the precursory symptoms. The limbs tremble, and a slight rigidity or stiffness is experienced when an attempt is made to put the muscles in action. The patient experiences a difficulty in keeping the erect posture, and in walking frequently staggers. If, when this effect is beginning to be observed, he be tapped suddenly on the ham while standing, a slight convulsive paroxysm is frequently brought on, so that he will have some difficulty to prevent himself from falling. "I have often," says the author, "in this way been able to recognise the effect of Nux Vomica on the muscular system before the patient had experienced any particular symptoms. If the use of the medicine is still persevered in, these effects increase in intensity, and the voluntary muscles are thrown into a convulsed state by very slight causes. Thus, when the patient inspires more deeply than usual, or attempts to walk, or even to turn in bed, a convulsive paroxysm

* The reader is also referred to the different provings of this plant in Hahnemann's *Materia Medica* (Fr. trans.), vol. iii. p. 123, *et seq.*, and Noack and Trinks' ***Handbuch für Hom. Arzneimittel.***, **art. Nux Vomica.**

is brought on. The sudden contact of external bodies also acts like an electric shock on him. The further employment of Nux Vomica increases the severity of the symptoms. The paroxysms now occur without the agency of any evident exciting causes, and affect him even when lying quiet in bed. The muscular fibres of the pharynx, larynx, œsophagus, and bladder become affected, as well as those of other organs, both in the male and female. The pulse does not appear to be uniformly affected; for the most part, it is slightly increased in frequency between the convulsive attacks; but Trousseau says he has found it calm even when the dose of the medicine was sufficient to cause muscular rigidity. Previous to the production of the affections of the muscles, various painful sensations are oftentimes experienced in the skin, which patients have compared to the creeping of insects (formication), or to the passage of an electric shock, and occasionally an eruption makes its appearance." It is remarkable that in paralysis, the effects of Nux Vomica are principally observed in the paralysed parts. Dr. Marshall Hall ascribes this to the irritability being greater in the inactive than in the active limb. Hence, though the Strychnia acts equally through the true spinal system, it produces the most marked effect upon the most irritable muscles. Magendie (*Formul.*, p. 7, eighth edit.) states he has observed sweating confined to the paralysed parts. "I have seen," says this physiologist, "the affected side covered with an anomalous eruption, while the opposite side was free from it. One side of the tongue is sometimes sensible to a very bitter taste, which is not perceptible to the other side."

Third degree: in poisonous doses, producing tetanus and asphyxia. To illustrate this, Pereira mentions the case of a young woman, reported by Mr. Ollier (*London Medical Repository*, vol. xix. p. 443). She swallowed between three and four drachms of this substance in powder, and in half an hour was seen by Mr. Ollier; she was sitting by the fire, quite collected and tranquil; her pulse about eighty, and regular.

He left her for about ten minutes to procure an emetic, and on his return found that she had thrown herself back on her chair, and that her legs were extended and considerably separated; she was perfectly sensible and without pain, but seemed in alarm; laid hold of her husband's coat, and entreated him not to leave her. A perspiration had broken out on her skin, her pulse had become faint and quicker, and she called frequently for drink. She then had a slight and transient convulsion; recovering from it, she was in great trepidation, kept fast hold of her husband, and refused to let him go, even for the alleged purpose of getting her drink. In a few minutes she had another and more violent attack, and shortly afterwards a third; the duration of these was a minute and a half to two minutes. In them she retained her grasp; her whole body was straightened and stiffened, the legs pushed out and forced apart. "I could not," says Mr. Ollier, "perceive either pulse or respiration; the face and hands were livid; the muscles of the former, especially of the lips, violently agitated; and she made constantly a moaning, chattering noise. She was not unlike one in an epileptic fit, but did not struggle; though, as she was forced out, it was difficult to keep her from falling on the floor. In the short intervals of the attacks she was quite sensible; was tormented with incessant thirst; perspired; had a very quick and faint pulse; complained of being sick, and made many attempts to vomit. A fourth and most vehement attack soon followed, in which the whole body was extended to the utmost, and she was rigidly stiff from head to foot; insomuch that, with all the force of the surgeon, he could not bend the thighs on the pelvis, to replace her on the seat. From this she never recovered; she fell into a state of asphyxia, and never breathed again. She now relaxed her grasp; her discoloured hands dropped upon her knees; her face, too, was livid, her brow contracted, the lips wider apart, showing the whole of the closed teeth, and a salivary foam issued plentifully from the corners of her mouth. The expression of the whole

countenance was at this time very frightful. She died about an hour after taking the poison, and five hours afterwards she was still as stiff and straight as a statue; if you lifted one of her hands, the whole body moved with it, but the face had become pale in comparison, and its expression more placid."

Hoffmann (*Med. Nat. Syst.*, vol. ii. p. 175) reports that a young girl, ten years of age, labouring under an obstinate quartan fever, took, at two doses, fifteen grains of Nux Vomica. She died after a short time, having experienced extreme anxieties.

A young woman swallowed purposely a drachm mixed in a glass of wine. In fifteen minutes she was seized with pain and heat in the stomach, burning in the gullet, a sense of redness and weariness in the limbs, succeeded by stiffness of the joints, convulsive tremors, tottering in her gait, and at length violent and frequent attacks of tetanus. Milk, given after the tetanus began, excited vomiting. She was further affected with redness of the gums, inflammation of the tongue, burning thirst, and pain in the stomach; the pulse also became quick, and the skin hot. Next day, though the fits had ceased, the muscles were very sore, especially on motion; the tongue and palate were inflamed, and there was thirst, pain in the stomach, vomiting, colic, and diarrhœa. These symptoms, however, abated, and on the fourth day disappeared, leaving her exceedingly weak (*Tacheron, Lond. Med. Rep.*, vol. xix. p. 456).

Jules Cloquet has described a case where the patient seemed to die of the excessive exhaustion produced by the long-continued and violent spasms. The tetanic fits lasted about twenty-four hours, the sensibility of the intervals being acute. Slight signs of irritation of the stomach succeeded, and death ensued on the fourth morning (*Nouv. Journ. de Méd.*, vol. x. p. 157).

Orfila states that a person swallowed, in the morning, a scruple of Nux Vomica in powder, and drank afterwards a few glasses of cold water, in order to diminish the bitterness occasioned by this substance. Half an hour after he appeared

to be drunk; his limbs, especially his knees, were stiff and tense; his walk was staggering, and he was afraid of falling. He took some food, and the symptoms soon afterwards disappeared (*Tox. Gén.*, vol. ii. p. 349).

As regards the quantity sufficient to produce a fatal effect, Dr. Basedon, of Merseburg, mentions the case of a young lady who swallowed, by mistake, a tablespoonful of the powder, she was almost instantly deprived of the power of walking and fell down, but did not lose her recollection; she after a time recovered.

Two cases occurred in London in 1839, in which fifty grains of the powder of Nux Vomica, equal to one-fourth of a grain of Strychnia, proved fatal in one; death took place in an hour. The chemist who sold the poison said he did not think a dose of fifty grains sufficient to cause death. Dr. Trail mentions a case where fifteen grains destroyed life; this is the smallest fatal dose on record.

On account of the singular symptoms of irritation of the spinal cord, uncombined with any injury of the brain, the poison is believed to act on the spinal marrow alone. Segalas states, however, that it also exhausts the irritability of the heart.

Its poisonous effects have been very generally doubted by the lower classes in this country, and they believe that it is capable of poisoning animals only; hence its vulgar name *rats-bane*. In one instance it was taken for a wager, supposing that it would only produce symptoms of severe intoxication. The man died in strong convulsions in a few hours, and one of the jury mentioned that the common people imagine it will not produce death in those persons who are born blind.

Medical Uses (Homœopathic).—Hahnemann (*Less. Writ.*, *Dudg. trans.*, p. 325) states: "The seeds of the Nux Vomica are very powerful; they produce vertigo, anxiety, febrile rigor; and in their secondary action, a certain immobility of all parts, at least of the limbs, and a spasmodic stretching, according to the size of the dose. Hence they are useful not

only, as is already known, in intermittent fever, but in cases of apoplexy. In their first direct action, the muscular fibre has a peculiar mobility imparted to it; the sensitive system is morbidly exalted to a series of intoxication, accompanied by fearfulness and horror; convulsions ensue. The irritability exhausts itself during the continued action on the muscular fibre, first in the animal, then in the vital functions. On passing into the indirect secondary action, there occurs a diminution of irritability, first in the vital functions (general perspiration), then in the animal, and lastly, in the natural functions. In the latter especially, this secondary action lasts several days. During the secondary action there is diminution of sensibility. Whether in the primary direct action the tonicity of the muscles is diminished, to be proportionally increased in the secondary action, cannot be accurately determined.* This much, however, is certain, that the contractility of the fibre is as much diminished in the secondary action as it was increased in the direct action. If this be true, Nux Vomica produces attacks similar to hysterical and hypochondriacal paroxysms, and this explains why it is so often useful in these complaints. Its tendency to excite, in its primary direct action, the contractility of the muscles and cause convulsions, and then again, in its secondary action, to diminish to an excessive degree the contractility of the muscles, shows such a resemblance to epilepsy, that from this very circumstance we must have inferred that it would heal this disease, had not experience already demonstrated it; as it excites, besides vertigo, anxiety, and febrile rigor, a kind of delirium, consisting in

* Since Hahnemann wrote, many experiments have been made to determine the seat of and action of Nux Vomica. Dr. Marshall Hall (*Lect. on the Nervous System*) says: "Hence, then, the seat of the operation of Nux Vomica is the seat of the reflex functions." Dr. Stannius (*Brit. For. Med. Rev.*, vol. v. p. 221) says: "The increased susceptibility to external impressions, produced by Strychnia, also depends on the primary action of this substance on the spinal marrow." The same physiologist concludes, from his experiments on frogs, "that the centripetal nerves receive from the spinal cord an increase of their excitability, and that thus charged they react upon the medulla, and occasion the peculiar convulsions."

vivid, sometimes frightful visions, and tension in the stomach; so it at once quickly subdued a fever in a laborious, reflective mechanic in the country, which began with tension in the stomach, followed by a sudden attack of vertigo, so as to make him fall, that left behind it a kind of confusion of the understanding, with frightful hypochondriacal ideas, anxiety, and exhaustion. In the morning he was pretty lively, and not exhausted, but in the afternoon, about two o'clock, the attack commenced. He got Nux Vomica in increasing doses, one daily, and improved. At the fourth dose, which contained seventeen grains, there occurred great anxiety, immobility, and stiffness of the limbs, ending in a profuse perspiration. The fever and all the nervous symptoms disappeared and never returned, although for many years previously he had been subject, from time to time, to such attacks suddenly occurring, yet unaccompanied by fever.

Its tendency to cause cramps in the abdomen, anxiety, and pain in the stomach, I availed myself of in a dysenteric fever (without purgings) on persons living in the same house with dysenteric patients. In these cases it diminished the feelings of discomfort in the limbs, the feverishness and anxiety, and the pressure in the stomach; it produced the same good results in some of the patients, but as they had simple dysentery, without diarrhœa, it made the evacuations still rarer, from its tendency to cause constipation. In diarrhœas, even such as are of a dysenteric character, it will be more serviceable, at least as a palliative remedy. During its employment I witnessed twitching movements under the skin, as if caused by live animals, in the limbs, and especially in the abdominal muscles.

In the *Materia Medica Pura*, Hahnemann has the following remarks: "There are a few medicines, the greater part of whose symptoms are analogous to the principal and most common diseases to which mankind is subject, at least in Europe, and which, consequently, are most frequently employed in homœopathy. The term polychrest may be applied to them.

"To this class especially belongs Nux Vomica. The use of it was formerly dreaded, because it had been tried only in very large doses; and in cases with which it did not correspond, it could not fail to injure. But it is the mildest and most precious of medicine in instances where its symptoms accord with those it excites in healthy persons, in a moderate dose. Nux Vomica is chiefly successful with persons of an ardent character, or a temperament disposed to anger, spite, or deception. If the catamenia occur several days too early, or are too abundant, Nux is perfectly adapted to meet the consequences.

"This medicine, taken some hours before going to bed, acts more mildly than at any other time of the day. Any case of immediate necessity must of course be excepted. It is best for very sensitive persons not to take it fasting in the morning, or on first waking, because its most powerful symptoms are then called out. Also, it should not be taken immediately before or after a meal, or when the head is much exercised; nor should the patient after taking this (or any other medicine) directly employ his faculties in writing, reflecting, reading, or reciting. He must wait at least two hours to avert any ill consequences.

"Among the diseases in which Nux is eminently efficacious are many chronic affections; for instance, those caused by excess of coffee or wine, especially in persons of sedentary habits, or those proceeding from too protracted literary application. It is also a remedy for many epidemic disorders and acute fevers, chiefly those in which cold is preceded or accompanied by heat. It frequently prevents the bad effect of chills.

"It is particularly suitable when the patient is worse in the morning than any other part of the day; when he awakes about three o'clock in the morning, and remains wakeful, with a multitude of ideas crowding upon his mind; and when just at daybreak he falls involuntarily into sleep, filled with busy dreams, from which he awakes tired and indisposed to rise. It is also adapted to persons who, several hours before bedtime, fall asleep in their chair.

"This medicine, like some others, has symptoms that seem partly or totally opposed to each other, although both are primitive. These alternating effects render it applicable to a great variety of morbid conditions.

"When Nux is followed by too powerful an effect, either from the dose being large or because it is not homœopathic to the disease, it is readily removed by a little wine, Camphor, or brandy. Also coffee is proper to dispel the headache and want of appetite caused by it; Aconite for excessive sensitiveness and asthma; Cocculus for paralytic symptoms; and Chamomilla for moroseness and a disposition to anger."

Clinical Observations.—For the various diseases to which Nux Vomica has been applicable under homœopathy, the reader is referred to the article "Nux Vomica," in Noack and Trinks' *Handbuch für Hom. Arzn. Mittel.*, of which the following enumeration is only an abstract. Apoplexia, with loss of consciousness. Delirium tremens. Catarrhal headache. Daily headache in the forenoon. Aching sensation at the root of the nose. Periodical headache, commencing after rising from bed, increasing till noon. Headache from abuse of coffee. Paroxysms of hysteric headache every ten days, commencing with dull, oppressive pain over the whole head. Hemicrania, with inclination to vomit. Clavus hystericus. Headache of hysterical females. Megrim. Neuralgia capitis. Melancholia. Apoplexia nervosa. Nervous vertigo. Slight degrees of paralysis. Nervous periodic headache. Photophobia. Weakness of vision. Amblyopia amaurotica. Amaurosis. Hardness of hearing, deafness. Prosopalgia nervosa. Rheumatic nervous pains in sound teeth. Heartburn. Pyrosis. Nausea and vomiting of pregnant women. Periodic vomiting. Spasmodic vomiting. Tensive, tearing, spasmodic pains in the stomach. Gastrodynia. Cardialgia. Hepatalgia. Icterus. Constipation from torpor and paralysis of the peristaltic action. Torpidity of the colon. Hæmorrhoids of different kinds. Discharge of blood from the rectum. Proctalgia. Different affections of the bladder; of

the catamenia. Acute and chronic diseases of the spine. Acute and chronic irritation of the spine. Myelitis. Neuralgia of the spine. Lumbago. Ischias antica et postica. Cramps in the legs. Hysteria. Hypochondriasis. Complete loss of appetite. Loss of smell and taste. A variety of gastric difficulties after every meal. Excessive sensitiveness of the respiratory organs, the least cold causing a catarrh. Catarrhal affection of persons affected with piles, attended with paroxysms of cough, induced by violent titillation in the throat. Paroxysms of dry cough, with vomiting immediately after lying down in the evening, attended with soreness at the pit of the stomach. Influenza. Pleurodynia. Neuralgia pectoris. Asthma, with nightly suffocative fits. Spasm of the heart. Angina pectoris, when it is a purely nervous, inflammatory affection. Stitching and bruised pain in the small of the back. Periodical attacks of pain in the small of the back, increased by motion and attended with constipation. Paralysis of the left arm. Paralysis of the hands of drunkards. Spasms of the lower limbs after taking cold. Intermittent paroxysms of gonagra, with formation of arthritic nodosities, the attacks being attended with vomiting and constipation. Cramp-like contractions of the soles of the feet and toes. Intensely painful, burning, stinging pain, with swelling of the heel, aggravated by walking, etc., etc.

ANTIDOTES.—To large doses: according to some, Wine, Coffee, Camphor, and Opium; and *Domné* states that Bromine and Iodine are antidotes to Strychnia. *Emmert* says that Vinegar and Coffee increased the poisonous effects of Nux Vomica bark.

To small homœopathic doses: Alcohol. Belladonna. Chamomilla. Cocculus. Coffea. Opium. Pulsatilla. Stramonium.

XLV.

OLEANDER.

(NERIUM OLEANDER.)

Common Rosebay.

Synonyms.—Nerium foliis linearii lanceolatis ternis; subtusis costatis laciniis calycinis squamosis nectariis planis. Nerium sive Rhododendrum, *Matth. Valgr*, v. ii. p. 447; *Ger. Em.*, p. 1406; *Camer. Epit.*, p. 843. Nerium floribus rubescentibus, *Bauh.* Πιν., p. 464. Rhododendron, *Dod. Pempt.*, p. 85. Nerium Oleander, *Linn. Sp. Pl.*, p. 305.

Foreign Names.—*Fr.:* Le Laurose; Laurier-rose. *Ger.:* Lorbeer-rose der Oleander. *Dut.:* Oleander. *Ital.:* Oleandro. *Span.:* Adelfa. *Port.:* Loendro. *Dan.:* Oleander. *Arab.:* Tiflæ.

Nat. Order, Contortæ, *Linn.*; Apocyneæ, *Juss.*—Pentandria, Monogynia.

Gen. Char.—*Calyx* five-cleft. *Corolla* salver-shaped, the throat crowned by lacerated, multifid segments. *Segments* of limb twisted, unequal-sided, tailless. *Filaments* inserted into the middle of the tube. *Anthers* sagittate, awned, cohering by their middle to the stigma. *Ovaria* two. *Styles* filiform, dilated at the top. *Stigma* obtuse; hypogynous scales wanted, but there are toothlets at the base of the calyx, outside the corolla. *Follicles* cylindrical. Erect shrubs. *Leaves* three in a whorl, elongated, coriaceous, with numerous parallel veins. *Flowers* terminal, corymbose.

Spec. Char.—*Leaves* lanceolate, three in a whorl, veiny beneath. *Segments* of the corona trifid or tricuspidate.

History.—This plant is described with great accuracy by Dioscorides (lib. iv. c. 82), under the name of Νηριον ἡ Ροδοδαφνη. He says the flowers and leaves are poisonous to dogs, asses,

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Fig 1. Section of the corolla. 2. The calyx, style, and stigma.

Oleander.

(Nerium Oleander.)

F H Del A M Trotter. lith

mules, and to almost all quadrupeds; but to men, they are, if drunk with wine with the addition of a little rue, a preservative against the bites of venomous beasts. The weaker animals, goats and sheep, die if they drink a decoction of this plant. Galen and Pliny ascribe the same powers to it; and Theophrastus demonstrates its poisonous effects on animals by the following fable. He says that Lucius Apuleius, a famous magician and learned man, was once deceived by the similitude of the flowers of this plant to those of the rose. He was wandering about under the metamorphosis of an ass, and seeking for roses, by which food he might be restored to his former shape, when at a distance he saw the Rhododaphne, covered with flowers. Fearing they might escape him, he rushed at them with open mouth, believing them to be true roses. Discovering his mistake, and being aware, from his knowledge of the properties of plants, that the flowers of the Nerium were poisonous to asses, he is seized with trembling and fear, and falls to the earth, with drooping ears.

The Arabians give a more extended application of this plant as a medicine than the Greeks. Rhases and Avicenna recommend the leaves as an application to hard apostemes, and the juice for prurigo, scabies, and other diseases of the skin; in chronic pains of the back and limbs, as a plaster, and as a sternutatory in diseases of the eyes. Gerarde states that "this tree, being outwardly applied, hath, as Galen saith, a digesting facultie; but if it be inwardlie taken, is deadly and poisonous, not only to men, but also to most kinds of beasts." Although its poisonous properties have been described by some authors on toxicology, yet its medicinal qualities have never been tested in allopathic medicine since the time of the Arabians. It is said that the honey of bees, which feed on this plant in certain districts, is liable to produce injurious effects, and care should be taken not to place the flowers of the Oleander in a confined apartment, as the vapour from them has been known to cause very unpleasant symptoms.

Description.—This beautiful shrub, such an ornament to

our greenhouses, has an arborescent stem, very much branched; its leaves are three together, on short stalks, linear, lanceolate, acute, entire, smooth, coriaceous, evergreen, and marked with numerous transverse ribs or veins beneath. *Flowers* numerous, terminal, corymbose, large, and handsome, but inodorous; usually of a rose colour, but occasionally white. *Seed-vessels* six inches long, ribbed, almost woody. One of the most beautiful of insects, Sphinx Nerii, feeds on this shrub, and is often taken on the coasts of Nice and Genoa.

Geographical Distribution.—Native of Spain, Portugal, Italy, and the Levant; Asia Minor, the East Indies, and Africa; and on the rocks of Corsica. Oriental travellers suppose this to be the bay-tree, to which the righteous man is compared by David.

Localities.—About the banks of rivers, in low moist situations. In Italy, it usually decorates courtyards.

Parts used in Medicine, and Mode of Preparation.—Hahnemann's instructions for the preparation of this plant are the following. He says: "Although the medicinal virtue of the Nerium Oleander does not appear to be very volatile, and consequently a powerful medicine may be made from the dried leaves powdered, yet to prepare an alcoholic tincture, in order to obtain a medicine, the action of which should be always the same, I am accustomed to take the green and fresh leaves, gathered at the time that the plant is about to flower, to cut up about an ounce of them into little pieces, and to moisten them in a mortar, with sufficient alcohol to form a thick pulp, but well crushed; afterwards to add the rest of the alcohol (in all about an ounce), to dilute the mass, and to strain this through a linen cloth; to let it stand some days, in order that it may deposit its albumen and fibrine, then to decant the clear liquor and set it aside." Jahr recommends the first three attenuations to be made from the dried leaves by trituration.

Physiological Effects.—It is now well ascertained that the effects ascribed to this plant by the ancients were based

upon truth. Lindley (*Veget. Syst.*) says, "the common Oleander, although little suspected, is a formidable poison; a decoction of its leaves forms a wash, employed in the south of Europe to destroy cutaneous vermin, and its powdered wood and bark constitute at Nice the basis of an efficacious rat poison."

A few years ago, a child died from having eaten, one morning, a quantity of Oleander flowers; it was seized with violent colic, under which it sank in two days.

In 1809, when the French troops were lying before Madrid, some of the soldiers went a-marauding, every one bringing back such provisions as could be found. One soldier formed the unfortunate idea of cutting the branches of the Oleander for spits and skewers for the meat when roasting. This tree, it may be observed, is very common in Spain, where it attains considerable dimensions. The wood having been stripped of its bark, and brought in contact with the meat, was productive of the most direful consequences, for of twelve soldiers who ate of the roast, seven died, the other five were dangerously ill (*Gardener's Chronicle*, 1844, p. 23).

A soldier of the French African army employed a branch of this shrub for the purpose of stirring some soup, which he was preparing for his comrades. Five men who partook of this soup were seized with the following symptoms:—Great restlessness, a wildness and prominence of the eyes, dilated pupils, vertigo, slight convulsions, pain in the abdomen, vomiting of a greenish-coloured liquid, and insensibility. They all recovered in eight days (*Canstatt, Jahrbuch*, 1844, vol. ii. p. 95).

Orfila (*Tox. Gén.*, vol. ii. p. 439) states that Nerium exerts a narcotic action of the brain and an irritant action of the alimentary canal. The whole of the plant is poisonous; and it is said that the honey of bees which feed on the flowers of this plant, in certain districts, is liable to produce injurious effects. Even the vapour of the flowers, in a confined apart-

ment, has caused unpleasant symptoms. In over-doses it causes palpitation, anxiety and fainting, swelling of the abdomen, and diminution of vital temperature.

Medical Uses (Homœopathic).—Hahnemann (*Mat. Med. Pura*) has the following remarks on this drug. "I was the first to introduce into medicine several vegetable and mineral substances, and I may flatter myself that in this respect I have really enriched the Materia Medica amongst these substances. The Nerium Oleander may be so placed. It is a new remedy, and is endowed with powerful medicinal virtues, which we do not meet with in any other medicament.

"In some kinds of mental alienations, absence of mind for example, in certain kinds of paralysis without pain, exanthematous affections of the hairy scalp, and in several affections of the back part of the head, the Oleander, if not the precise remedy to produce a complete cure, is at least an indispensable assistant. The homœopathic physician can also employ it with advantage in other disorders bearing analogy to the symptoms it can itself produce in persons in health.

Clinical Observations.—*Noack and Trinks* (op. cit.): Painless paralysis. Numbness, and loss of sensation over the whole body. Itching of the skin. Sleeplessness. Absence of mind. Slowness of comprehension, and of retaining objects in the mind. Loss of memory. Inability to think. Giddiness. Heaviness of the head. Eruption on the hairy scalp. Tinea capitis sicca et favosa. Pimply eruption on the face. Lienteria. Diarrhœa of undigested food. Paralysis of the lower extremities.

Antidotes.—Camphor? Nux Vomica? Opium?

Papaver somniferum.

XLVI.

PAPAVER* SOMNIFERUM.

(OPIUM.)

White Poppy.

SYNONYMS.—Papaver, *Hall Hist.*, v. ii. p. 16. Papaver sylvestre, *Raii Syn.*, p. 308; *Ger. Em.*, p. 370, f. Papaver sativum, *Math. Vulg.*, v. ii. p. 205; *Camer. Epit.*, 103; *Bauh. Hist.*, vol. v. p. 390. Papaver somniferum, *Linn. Sp. Pl.*, p. 726; *Willd.*, vol. ii. p. 147; *Fl. Brit.*, p. 568; *Woodville*, v. i. t. 185.

FOREIGN NAMES.—*Fr.:* Pavot des Jardins. *Ital.:* Papavero domestico. *Span.:* Adormedera. *Port.:* Dormedeira. *Germ.:* Garten mohn, Mohnsaft. *Swed.:* Vallmo. *Dan.:* Vallmue.

Nat. Order, PAPAVERACEÆ.—POLYANDRIA, MONOGYNIA.

GEN. CHAR.—*Sepals* two, convex, deciduous. *Petals* four. *Stamens* numerous. *Style* none. *Stigmas* four to twenty, radiating, sessile upon the disk, crowning the ovary. *Capsule* obovate, one-celled, composed of four to twenty carpels, enclosed in a membranous production of the thalamus, dehiscing by short valves under the crown of the stigmas. *Placentæ* between the valves, produced internally, forming incomplete dissepiments (*D. C*). *Herbaceous* plants, with divided leaves, and a white, milky juice. The *peduncles* (flower-stalks) drooping before flowering. *Flowers* large, various in colour. *Capsules* bristly or smooth. The two-leaved calyx, celled capsule, and sessile radiated stigma well distinguish this from other genera with a tetrapetalous corolla in the same class and order.

SPEC. CHAR.—*Capsule* nearly globular, smooth, as well as the *calyx* and *stem*. *Leaves* embracing the stem notched, glaucous.

HISTORY.—This plant and the preparations from it† were

Fig. 1. Germen and sessile radiated stigma. 2. A stamen. 3. Section of the capsule.

* From Papa, pap, because it was used with pap given to children to induce sleep; a custom, says Dr. Thornton, which has carried thousands to the grave.

† Christison says: "Among the various preparations of the Μηκων ημερος, which is supposed by many to have been the modern garden Poppy, there is one, the μηκωνος οπος, or poppy-juice, which was prepared in ancient times, as we learn from Dioscorides, very nearly in the same way as Opium is now made from the same plant in Asia Minor, Hindostan, and Europe."

employed in medicine as early as the days of Hippocrates; for although not mentioned in his works, it is found in those of Diagoras his contemporary.

Pliny (b. xix. t. ii. p. 30, *Holland's Trans.*) gives the following description of the Papaver and its properties: — "Of Garden Poppies there be three kinds, first the white, whereof the seeds, in old times, being made into biskets or comfits, with honie, were served up as a junketting dish. The rusticall peasants of the countrey were wont to guild or glaze (as it were) the upper crust of their loaves of bread with yolkes of eggs, and then to bestrew it with poppie seed, which would cleave fast unto it, having first underlaid the bottome crust with ammi, or annise seed and gith; and then they put them into the oven being thus seasoned, which gave a commendable taste to their bread when it was baked. There is a second kind of poppie called black, out of the heads or bols whereof a white juice or liquor issueth by way of incision, like unto milke, and many receive and reserve it carefully. * * * Meanwhile this cannot be forgotten, that poppies have alwaies, time out of mind, been highly regarded and honoured among the Romanes: witnesse Tarquine the Proud, the last king of Rome, when his sonnes embassadours were come unto him for to understand his advise how to compasse the siegnoree over the Gabians, drew them into his garden, and there, by circumstance of topping the heads of the highest poppies there growing, without any answere parole, dispatched them away, sufficiently furnished by this demonstration with a bloudie designe, even to fetch off the greatest mens heads of the city, the readiest meanes to effect his purpose. Which juice thus drawne and thus prepared, hath power not only to provoke sleepe, but if it be taken in any great quantitie, to make men die in their sleepe; and this our physicians call Opion. Certes, I have knowne many come to their death by this meanes: and, namely, the father of Licinius Cecinna, late deceased, a man by calling a pretour, who, not able to endure the intollerable pains and torments of a certaine disease, and being wearie of his life, at Bilbil, in Spaine,

thretened his owne daies by taking Opium. By reason whereof, physicians are growne to great variance, and bee of contrary opinions as touching the use of the foresaid Opium. Diagoras and Erasistratus condemned it altogether as a most deadly thing, and would not allow it to be so much as injected or infused into the bodie, for they held it no better than poyson, and otherwise hurtfull also to the eies. Andreas saith, moreover, that if Opium dooth not presently put out a man's eies and make him blind, it is because they in Alexandria in Ægypt do sophisticat it. But in process of time the later and moderne physicians did not utterly reject it, but found a good use of it in that noble and famous opiat confection called Diacodium.

"Moreover, there bee certaine ordinary trosches made of poppie seed beaten to powder, which with milke are commonly used by way of liniment to bring sicke patients to sleepe. Likewise with oile rosat for the headach, and with the same oyle they use to drop it into the eares for to mitigate their paine. Also, a liniment thereof with breast milke is singular good for the gout, in which sort there is great use of the leaves also; and beeing applied as a cataplasme with vinegre, they help St. Anthonies fire. For mine own part, I would not have it in any case to enter into collyries, much less into those medicines which be ordained to drive away aged fits, or into maturatives, no, nor to goe among other ingredients into those remedies which are desired to stay the flux that commeth from the stomacke."

Dr. Adams (*Commentary on Paulus Æginetа*, vol. iii. p. 280) has the following remarks on the ancient history of Opium. "Though mention is made of 'the juice of the Poppy' and of 'Meconium' as soporifics in the works of the Hippocratists (*De Mulieribus*, vol. ii.), it does not appear that these articles were much in use until a later age. 'The juice of the Poppy' is noticed likewise by Theophrastus (*Fr.*, 20, 35), and the process of gathering this juice is briefly alluded to by him (*H. P.*,

ix. 8, 2), but the nature of his work did not lead him to say anything of its medicinal uses. There can be no question, we presume, that the 'Papaveris lachryma' of Celsus was Opium, that is, the concrete juice of the Poppy. He prescribes it on many occasions, both externally and internally. For example, as an ingredient along with hyoscyamus, burnt lead, and other ingredients, for an emollient plaster to be applied in arthritic pains, and as an injection, with alum and henbane, for earache, etc. The famous Methodist, Cælius Aurelianus, is very guarded in his use of opiates, and he appears to approve of the opinion of those who held that Poppy does not induce sleep, but oppression of the senses, 'Papavera autem pressuram non somnum faciunt.' Dioscorides is the first authority that gives a detailed account of Opium and its uses in medicine. Treating of the cultivated Poppy, he says, that its juice is very congealing, incrassative, and desiccative, when taken in small quantity; to the size of a vetch, is anodyne, soporific, concoctive, and is useful in coughs and cœliac affections. Taken in greater quantity, it proves injurious, inducing lethargy and death; it is beneficial in headache, when rubbed in with rose oil; and in earache, when injected with almond oil, saffron, and myrrh; in inflammation of the eyes, with roasted yelk of an egg and saffron; and for erysipelas and wounds, with vinegar; for gout, with a woman's milk and saffron; and when applied as a suppository, it induces sleep. The best kind is that which is dense, has a heavy stupifying smell, is bitter to the taste, readily incorporating with water, smooth, white, not rough nor grumous, nor moulding like wax in the process of straining; when laid in the sun softening, and when applied to a lamp not burning with a smoky flame, and after being extinguished, preserving its powers in its smell. He then mentions several modes of adulterating it, which were practised in his time, and then adds, it is roasted for ophthalmic medicines upon a recent shell, until it becomes soft and of a tawny colour. Erasistratus says that Diagoras condemned the use of it in diseases of the

ears and eyes, as inducing dimness of sight and coma. And Andreas says, that if it had not been adulterated, those that rubbed it in would have been deprived of sight by it. But Mnesidemus says, that the only proper use of it is by the smell, as thus disposing to sleep, for that otherwise it proved injurious; but these statements are false, as it is proved by experience, for the operation of the medicine is attested by its effects. He concludes by describing the modes by which Opium and Meconium were prepared, but it will be sufficient for our purpose to state that his description of the former of these is exactly the same as the method now commonly practised. See Kæmpfer (*Amæn. Exost.*, 643), and Pereira (*M. M.*, 1274). The Meconium was the expressed juice of the leaves and head, and is not now in use. Dioscorides states that it is much weaker than the other. Pliny's description of the Opium and Meconium is obviously taken from Dioscorides, or both these authors must have copied from some preceding authority. He thus describes the Meconium, 'Cum capita ipsa et folia decoquntur, succus Meconium vocatum, multum opio ignavior' (*H. N.*, xx. 76). Opium, it is certain, was freely used by the Empirics, and accordingly it will be found that it is a very common ingredient in the prescriptions of Scribonius Largus, and Marcellus the Empiric. The latter gives several formulæ for collyria, in which Opium occurs, and he is at pains to state that it is the concrete and not the expressed juice which must be used (*De Medicamentis*, viii.) He also prescribes it internally for pains of the kidneys, as an enema in colic, and in many other cases. Galen would appear to have had very sound opinions respecting the use of Opium in the treatment of diseases. He professes, indeed, never to have recourse to it when he could help it (*De Comp. Med.*, sec. *Loc.*, iii.), but yet he prescribes it in cœliac and certain stomach affections, and even in intense pains of the eyes, although in general he condemns the applications of it in collyria. He often mentions that castor counteracts the prejudicial effects of Opium. Of all kinds of

Opium, he pronounces the Theban to be the best. Avicenna, besides treating of Opium as a poison, and giving the general properties of Poppy under that head, has a very interesting chapter on Opium in his Materia Medica. He defines Opium to be the juice of the black Egyptian poppy dried in the sun. He says it proves fatal if given in a larger dose than ten drachms; but the proper dose he states to be the size of a tare. He states in parenthesis that Opium is also formed from the juice of the wild lettuce* (*lactucarium*). He calls it narcotic, and sedative of all pains, whether taken internally or rubbed in. It is useful, he says, in apostemes, especially in those of an inflammatory nature. He says of it that it dries up ulcers; with the yelk of an egg forms a liniment for gout; it proves soporific, if a cloth smeared in it be placed below the head; allays pain, if injected into the ear affected, along with myrrh and saffron; allays chronic pains in the head, and sometimes cures them; soothes the pain of ophthalmy, and the apostemes of the eyes, with the milk of a woman; but yet he adds that many of the ancient authorities had condemned the use of it in such cases as prove injurious to the sight; it allays incessant coughs, and often cures that kind which is noisy; improves the stomach in peculiar cases, when debilitated by excess of heat, and humidity is braced by it; but in many constitutions Opium, so administered, impairs digestion; it stops diarrhœa; is useful in dysentery, and in ulceration of the intestines. It proves fatal, he says, by congealing the vital powers and extinguishing the innate heat, and its antidote is castor. He concludes by saying, that three times the amount of the seed of hyoscyamus, or double of the seed of mandragora, may be given as a substitute for it. Haly Abbas treats of Opium more briefly, stating, in general terms, that it is a soporific and sedative medicine. He seems to say that from half a drachm to a drachm will prove fatal. Serapion's account of Opium is mostly made up of extracts from Dioscorides and Galen, with a few brief notices of

* Lettuce-juice is constantly employed in many parts of Sicily as a substitute for Opium.

the opinions held by Arabian authorities, which do not contain anything of much interest. Rhases' chapter upon the Poppy contains many extracts from the Greek authorities on Opium, with a few from Arabian writers, which, however, contain nothing of much interest, after what we have given from Dioscorides and Avicenna. Like Serapion, he says from half a scruple to a scruple is a dose, and that two drachms will prove fatal. Joannitius seems to say that it binds the bowels in general, but yet has some laxative power. In the 'Book of Experience,' as quoted by Ebn Baithar, poppy-juice is recommended in complaints of the eyes, and in pains of the head when applied to the forehead. One of his Arabian authorities mentions its good effects in diarrhœa, and it is also spoken favourably of as an application to burns."

Gerarde has the following remarks on this plant, evidently taken from the earlier writers. "The seede, as Galen saith in his booke of the faculties of nourishments, is good to season breade with; but the white is better than the blacke. He also addeth that the same is colde and causeth sleepe, and yieldeth no commendable nourishment to the bodie; it is often used in comfits, or served at table with other junketting dishes.

"The oil which is pressed out of it is pleasant and delightfull to be eaten, and is taken with bread or any other wares in meate, without any sauce is cooling.

"A greater force is in the knobs or heads, which do specially prevail to moove sleepe, and to stay and represse distillations or rheumes, and come neere in force to Opium, but more gentle. Opium, or the harder juices of Poppie heads, is strongest of all; meconium (which is the juice of the heads and leaves) is weaker. Both of them any waies taken, either inwardly or outwardly, applied to the heade provoke sleepe. Opium, somewhat too plentifully taken, doth also bring death, as Plinie truelie writeth.

"It mitigateth all kindes of paines, but it leaveth behinde it oftentimes a mischiefe woorse than the disease itselfe, and that hard to be cured, as a dead palsie and such like.

"The use of it, as Galen, in his ii booke of medicines according to the places affected, saith, is so offensive to the firme and solide partes of the bodie, as that they had neede afterwards to be restored.

"So also colliries or eie medicines made with Opium have beene hurtful to many; insomuch that they have weakened the eies, and dulled the sight of those that have used it; it bringeth hardness of hearing whatsoever is compounded of Opium to mitigate the extreme paines of the eares. Wherefore all those medicines and compounds are to be shunned that are made of Opium, and are not to be used but in extreme necessitie; and that is, when no other mittigator or assuager of paine doth anything prevaile, as Galen, in his thirde booke of medicines according to the places affected, doth evidently declare.

"The leaves of Poppie boiled in water with a little sugare, and drunke, causeth sleepe; or if it be boiled without sugar, and the head, feete, and temples bathed therewith, it doth effect the same.

"The heads of Poppie boiled in water with sugar in the manner of a syrup causeth sleepe, and is good against rheumes and catarrhs that distill and fall downe from the braine into the lungs, and easeth the cough.

"The green knops of Poppie stamped with barley-meale and a little barrow grease helpeth St. Anthoneys Fier, called Ignis sacer."

"In many parts of India, Opium is presented at visits and entertainments in the same familiar manner as the snuff-box in Europe. There is in that country a class of persons who carry letters and run with messages through the provinces, with no other provision than a piece of Opium, a bag of rice, and a pot to draw water from the wells. These men perform journeys that would scarcely be credited in this country. In the same manner, trackless deserts of the different countries between the Indus and Mediterranean are traversed by foot-messengers, by the aid of this drug, with a few dates perhaps, and a piece of

coarse bread. The old traveller, Sir Thomas Herbert, very well describes this use of Opium:—'Opium (the juice of poppy) is of great use there also (in Persia); good, if taken moderately, bad, nay mortal, if beyond measure; but by practice they may make that familiar which would kill us, so that their medicine is our poyson. They chew it much, for it helps catarrhs, cowardice, and the epilepsie; and what is admirable, some extraordinary foot-posts they have, who, by continually chewing this, with some other confection, are enabled to run day and night without intermission, seeming to be in a constant dream of giddiness, seeing but not knowing whom they met, though well acquainted, and miss not their intended places; by a strange efficacy expulsing the tedious thoughts of travel, and rarely (wonderfully) for some days deceiving the body of its reasonable rest and lodging.'"

Pomet (*Histoire des Drogues*) says that the Turks subsist on Opium for two or three days without any nourishment, and when they go to fight they take it to excess, that it may animate them, or at least make them insensible of danger.

Quincy says, "This drug is of so great consequence, that there is no following the notions of all authors concerning it; many treatises having been wrote professedly about it. Some have been fearful in meddling with it, but others are again very bold in its use. Platerus extols it prodigiously; and Sylvius used to say, if it was not for Opium, he would not practise. Its most difficult use is in deliriums, which sometimes it does mighty service in, and sometimes much mischief. Van Helmont forbids it at such times; but so much skill in a physician is required in the case."

In modern allopathic medicine the use of Opium is very general; in fact, it will suffice to say that it is a chief ingredient in almost all prescriptions that are exhibited for the purposes "of supporting the powers of the system; mitigate pain or irritation; induce sleep; relieve inordinate,

check morbidly increased evacuations, and diminish morbid sensibility."*

DESCRIPTION.—The white and somniferous Poppy is an annual, flowering in June in Europe, and in February in India. The *root* is white and tapering, with several strong fibres. The *stem* is upright, three to four feet high, branched, leafy, smooth, and glaucous. The *leaves* are alternate, large, wavy, irregularly lobed, cut or deeply serrated, and clasping the stem by their broad, heart-shaped base. The *flowers* are large, drooping while in the bud, but becoming upright as the corolla expands. *Petals* purplish-white, with a large violet spot at the base of each. *Germen* nearly globular, sometimes furrowed. *Seeds* very numerous, kidney-shaped, reticulated, oily, sweet, and eatable. The whole plant is glaucous and smooth, except that the flower-stalks sometimes bear a few scattered, spreading, bristly hairs. Many fine varieties, with double flowers of every shade of purple, scarlet, crimson, and even green mixed with white, are not uncommon in gardens.

GEOGRAPHICAL DISTRIBUTION.—Papaver somniferum is a native of the East; extensively cultivated in Turkey, Persia, and India, and other warm climates; but has become naturalized in the south of Europe, Great Britain, etc.

LOCALITIES.—In this country, on sandy ground, in fens and uncultivated places. *Oxfordshire:* near the Observatory, Oxford; cornfields at Mapledurham, plentiful. *Cambridgeshire:* Waterbeach Fen. *Devon:* between Sidmouth and Branscombe. *Durham:* Willington. *Kent:* cornfields about Dartford; near the Medway at Rochester. *Norfolk:* on the banks of all the fen ditches where the soil is sandy. *Staffordshire:* moat of

* The preparations of Opium in chemists' shops are most uncertain in their strength. The *Lancet* (Jan. 29, 1853) has the following remarks:—"His (the physician's) prescription may be sent to half a dozen chemists, without any two of them supplying his patient with the quantity of Opium that he wishes to take; neither does the reputation of the chemist nor the sum that is given for the medicine offer any additional security."

Tutbury Castle, with flowers much smaller than the cultivated root. *Warwickshire:* cornfields near the road going from Rugby to Barby, and on Jarret's Heath, near Rugby. SCOTLAND, *Angus-shire:* near Cupar. IRELAND: sandy fields near Kilbanick Church; about Howth, but not common (Mr. Mackay, in *Cat. of Pl. of Ireland*). Great quantities are raised at Mitcham, in Surrey, for the supply of the London market.

PARTS USED IN MEDICINE, AND MODE OF PREPARATION.—The inspissated milky Juice, known as *Opium*.

The method of obtaining Opium is sufficiently simple; the young plants are set out in rows, about six inches distant from each other, and are at first plentifully watered; when six or eight inches high a rich manure is applied, and when about to flower they are again profusely watered. The collection of Opium commences when the seed-capsules are about half-grown. At sunset two or three longitudinal incisions are made in each capsule, care being taken to avoid reaching the internal cavity; the exuding juice is removed as fast as it concretes, put into earthen pots, and ultimately dried in the sun; it is then formed into spherical masses, covered with poppy or tobacco leaves, and more completely dried. The following is the account of the mode of obtaining Opium in Asia Minor. "A few days after the flower has fallen, men and women repair to the fields and cut the head of the Poppy horizontally, taking care that the incisions do not penetrate the internal cavity of the shell. A white substance immediately flows out and collects in tears on the edges of the cuts. In this state the field is left for twenty-four hours, and on the following day the Opium is collected with large blunt knives. Each head furnishes Opium once only, and that to the extent of a few grains. The first sophistication which it receives is that practised by the peasants who collect it, and who lightly scrape the epidermis from the shell to augment the weight. This operation adds about one-twelfth of foreign matters. Thus collected, Opium has the form of a glutinous and granular jelly. It is deposited

in small earthen vessels and beat up with saliva. When asked why water was not employed instead of saliva, the answer was, that water caused it to spoil. It is afterwards enveloped in dry leaves, and in this state is sold. The seeds of those Poppies which have yielded Opium are equally good for sowing the following year" (*M. Ch. Texier*, as quoted by Mr. Pereira, *Med. Gaz.*, vol. xviii. p. 819).*

Several varieties of Opium are met with in commerce. That which is most prized is the *Turkey*, *Smyrna*, or *Levant Opium*.

* Pliny's account of the mode of gathering and preparing Opium is interesting for comparison sake. "Diagoras giveth counsell to cut the stem or stalke of the blacke Poppie, when it beginneth to sprout and swell toward the flowring time, out of which there will issue a certain juice called Opium; but Tollas adviseth to make that incision when it hath bloumed, and to chuse a faire cleare day for it, and that houre of the day when as the deaw thereon is dried up. Nor would they have them to be cut under the head before the bloume; but in the very head after it hath done flowring, and verely there is no other kind of hearbe wherein the head is cut, but this onely. The said juice of this hearbe, as well as of all other, is receeved in wooll; or else, if it run but in a small quantitie, they gather it with the thumbe naile, as the manner is in lectuces; but the morrow after the incision, so much the more vigilant they must be to save and gather that which is dried; and in very deed the juice of Poppies commonly runneth out in great abundance, and gathereth into a thicknesse, which afterwards is stamped and reduced into little troseches, and dried in the shade. * * * Now to know which is good Opium, indeed the very first and principall triall is by the nose, for the true Opium is so strong that a man may not endure to smell it. The second proof is by fire, for the right Opium will burn clear like a candle; and when it is put forth yeeldeth a stinking sent from it in the end, which signes are never to be found in that which is falsified and sophisticat, for this that is not right will not so soon take and light fire; and besides is ready oftentimes to go out. There is another experiment by water; for the good and pure Opium, beeing put in water, sendeth forth a certain mist from it like a cloud, whlch floteth even aloft, whereas the corrupt and depraved Opium gathereth into blisters and bladders, and so bubbleth on the water. And yet there is one way more admirable than the rest to trie good Opium, even by the sunneshine on a summers day; for, if it be such as it ought, it will sweal and resolve into a thin liquor, like as when it came first out of the plant. To conclude, Mnesicles is of opinion that the best meanes to keepe and preserve Opium, is to lay it among henbane seed; but others think it better to let it lie among beans."

It is found in the European market in flattish cakes, sprinkled with pieces of dried leaves, and with the seed-capsules of some species of *Rumex*. It should be of a rich brown colour when recently cut, and of a tough consistency, and a tolerably smooth and uniform texture. After exposure to air it becomes blackish and harder. Its peculiar narcotic smell should be strong and fresh, and unaccompanied by any burnt odour. Its taste is bitter, and slightly warm and acrid. Those pieces which are very soft, full of herbaceous impurities, containing patches of a very dark brown or black extract, of an empyreumatic odour, or not smelling duly narcotic, are in general adulterated, and it is not uncommon to find stones, sand, bullets, and other impurities, in masses even of the best Opium. When this Opium is carefully dried it becomes brittle, and affords a yellow-brown powder. It burns with flames, and exhales an odour in which may be traced some resemblance to that of animal matter; its specific gravity is about 1·3.

A large quantity of Opium is made in India; that which is found in our market, under the name of East India Opium, is generally darker coloured and less pure than the Turkey Opium; it has less of the narcotic odour, and smells and tastes and looks as if it had been injured by fire. But of the genuine Indian Opium, little or none is brought to this country; about one-third is sent to the Eastern islands, and two-thirds to Canton. It is rigidly prohibited in China, so that the whole of it is smuggled into that country. In the year 1829-30, between 16,000 and 17,000 chests of Indian Opium are said to have been imported into China, each chest containing about 133 pounds. The Chinese use it chiefly for smoking, and prefer it to Turkey Opium; they, however, also import a considerable quantity of the latter. The principal varieties of the Indian Opium are Maleva and Bengal Opium. The former is in small cakes, of a dark brown colour and resinous fracture; the latter in balls of about three and a half pounds weight, of a softish consistence, and having a strong and pure taste and odour of Opium.

Egyptian Opium is in small flat cakes, of a peculiar reddish colour, and having less of the Opium odour than the other varieties.

Constantinople Opium is in large and small cakes; the former of good quality, the latter covered with poppy-leaf, less odorous, and more mucilaginous.

Persian Opium is in small cylindrical sticks, about six inches long, and half an inch in diameter. Each one is enveloped in a smooth shining paper, and tied with cotton; its colour is similar to that of Socotrine aloes. It has the opiate odour stronger than that of the Egyptian kind, but less than Smyrna Opium, and mixed somewhat with a musty odour; its taste is intensely bitter. It is commonly termed Persian Opium, but the specimens I received came from Trebizond. It is considered an inferior kind (*Pereira, Brande's Dictionary of Mat. Med. and Phar.*, p. 382).

"Homœopathy confines itself to the two following methods of using Opium. One method is to dissolve a grain of good Opium in powder in a hundred drops of alcohol, to allow it to remain a week at a common uniform temperature, when it is fit for use; and it is carried to its higher degrees of solution by following the same methods as are employed for other medicines. The other method, which is the preferable one, is to use the Opium in substance, the same as all other dry substances, rubbing three times in succession with a hundred grains of sugar of milk; then dissolve a grain of the third attenuation in a hundred drops of alcohol, and continue as before until the decillionth dilution is reached. One or two globules soaked in this extract suffice to produce all the benefit that can be obtained from Opium, when there is any homœopathic sympathy between its symptoms and those of the disease to which it is opposed. The effects of Opium are much more difficult to ascertain than those of almost all other medicines" (*Hahnemann, Mat. Med. Pura*).

Physiological Effects.—*The Effects of Opium on Plants:*

Macaire (*Annal. de Chim. et Phys.*, vol. xxxix. p. 213) states, that the stamens of the barberry and the leaves of the sensitive plant lost their contractility and soon died, when the stems of these vegetables were immersed in an aqueous solution of Opium. Other experimenters have not succeeded in producing this result. By immersing the stem of the Chara in a solution of Opium, the circulation of this plant becomes slower, is soon suspended, and is ultimately stopped (*Pereira, op. cit.*)

On Animals.—On all animals Opium has been found to act as a poison, but modified according to the degree of development of the nervous system. In the Invertebrata, Opium causes weakness or paralysis of the contractile tissues, with gradual sinking and death. Thus in the Polygastrica and the Annelides, it first accelerates the animal movements, but afterwards paralyses them. Now, in the lower Invertebrata a central nervous apparatus is altogether wanting, while in the higher animals of this class it is not sufficiently developed to exercise that influence over the whole individual which we observe it to possess in the vertebrated class.

In the vertebrated animal, we have a high development of the central organs of the nervous system, and a consequent increase in the number of symptoms caused by Opium. Thus in fishes, amphibials, and reptiles we observe, in addition to the weakened and paralytic condition of the contractile tissues, convulsions. In the first the convulsive contractions bend the body laterally, whereas in the other Vertebrata the superior dorsal muscles are affected, and hence the head and tail are elevated. These differences obviously depend on the disposition of the muscles. Proceeding in the ascending order, we observe in birds and mammals, besides the paralysis and convulsions, stupor. The last-mentioned symptom, however, is principally manifested in the highest of the mammals, man, that is, in that animal which has the most highly-developed brain; while in some of the lower mammals, as the ruminants, it is scarcely observed; and even in the Carnivora, as in dogs,

it is very slight. It is somewhat remarkable that the stupor is more manifest in birds than in the lower mammals. Moreover, it is not undeserving of notice, that the operation of Opium on the different races of man is not uniform. On the Negro, Malay, and the Javanese it more frequently acts as an excitant, causing furious madness or delirium, and convulsions. Are we to ascribe the less frequent occurrence of these symptoms in the Caucasian variety to the greater development of his brain? In conclusion, then, it appears that the effects of Opium on the animal kingdom have a relation to the degree of development and influence of the nervous system (*Idem*).

On Man.—Its effects may be divided into three degrees of operation. *First degree of operation:* In small doses, of from a quarter of a grain to one grain, Opium generally acts as a stimulant, though in this respect the symptoms are not uniform. Usually the vascular system is somewhat excited, and a sensation of fulness is experienced about the head. The mind is usually exhilarated, the ideas flow more quietly, a pleasurable and comfortable condition of the whole system is experienced, difficult to describe; there is capability of greater exertion than usual. These symptoms are followed by a diminution of muscular power, and of susceptibility to the impression of external objects; a desire of repose is experienced, with a tendency to sleep; while these effects are taking place, the mouth and throat become dry, and hunger is diminished, though the thirst is increased, and slight constipation usually follows. Such are the ordinary effects of a small dose of Opium on persons unaccustomed to its use. By repetition, however, its influence becomes considerably diminished; and those therefore who resort to it for the purpose of producing a pleasurable excitement, are obliged to augment the dose to keep up an equal effect.

Given in a full medicinal dose, from two to four grains, the stage of excitement is soon followed by that of depression. The pulse, which at first is increased to fulness and frequency, is

afterwards reduced below the natural standard. The skin becomes hot, the mouth and throat dry, the appetite diminished, the thirst increases, and frequently nausea or even vomiting are induced. The symptoms of excitement soon pass away, and a state of torpor succeeds; the individual seems indisposed to exertion, the muscular system appears enfeebled, the force of external impressions on the organs of sense is diminished, and the ideas become confused. This state is followed by an almost irresistible desire to sleep, which is frequently attended by dreams, sometimes of a pleasing, at others of a frightful nature. These effects are usually succeeded by constipation, nausea, furred tongue, headache, and listlessness (*Idem*).

Poisonous Effects of Opium.—Dr. Christison (*Treatise on Poisons*, p. 529) says, "The symptoms of poisoning with Opium, when it is administered at once in a dangerous dose, begin with giddiness and stupor, generally without any previous stimulus. The stupor rapidly increasing, the person soon becomes motionless and insensible to external impressions; he breathes very slowly, generally lies quite still, with the eyes shut and the pupils contracted; and the whole expression of the countenance is that of deep and perfect repose. As the poisoning advances, the features become ghastly, the pulse feeble and imperceptible, the muscles excessively relaxed, and, unless assistance is speedily procured, death ensues. If the person recovers, the sopor is succeeded by prolonged sleep, which commonly ends in twenty-four or thirty-six hours, and is followed by nausea, vomiting, giddiness, and loathing of food.

The most remarkable symptom in the generality of cases of poisoning with Opium, is the peculiar sopor. This state differs from coma, in the patient continuing long capable of being roused. It may be difficult to arouse him, but, unless death is very near, this may always be accomplished by brisk agitation, tickling the nostrils, loud speaking, or injection of water in the ear. The state of restored consciousness is always imperfect, and is speedily followed again by lethargy, when the exciting

cause is withheld. The possibility of rousing the patient from the lethargy caused by the Opium is, in general, a good criterion for distinguishing the effects of this poison from apoplexy and epilepsy.

Convulsions, in poisoning by Opium, are not common in the human subject, yet when they do occur they are sometimes very violent. The *Journal Universel* (vol. xix. p. 340) contains the case of a soldier who took two drachms of solid Opium, and died in six hours and a half, after being affected with locked jaw and dreadful spasms. A case is related in the *Medical and Physical Journal* (vol. xxxi. p. 468) of a young man who, after swallowing an ounce of Laudanum, told what he had done, so that he was seen within three hours by his surgeon; at that time he was insensible, the mouth was distorted, the jaws fixed, and the hands clenched; afterwards the insensibility was lessened by proper remedies, and then he was seized with spasms of the back, neck, and extremities, so violent as to resemble opisthotonos. Another good case of this kind is related by Mr. M'Kechnie (*Edin. Med. and Surg. Journal*, vol. vii. p. 305), where the voluntary muscles were violently convulsed in frequent paroxysms, and were affected in the intervals with subsultus, for three hours, before the sopor came on. The convulsions sometimes assume the form of permanent spasm, which may affect the whole muscles of the body. Another rare symptom is delirium.

The state of the pulse varies considerably; in some cases as high as ninety, feeble and irregular, and such appears to be the case when the dose has been so large as to endanger life. Very frequently, however, it is much slower, and then it is rather full than feeble, just as in apoplexy. In the cases where convulsions occur, it is for the most part hurried, and does not become slower till the coma becomes pure.

The respiration is almost always slow; sometimes it is stertorous, but this is not common. It is generally very gentle, and in an instance recorded by Dr. Kennis, the breathing could

not be perceived without great attention, yet the patient recovered.

The pupils are always at least sluggish in their contractions, often quite insensible; sometimes they are dilated, but much more commonly contracted, and occasionally to an extreme degree. In the case last noticed, they were no bigger than a pin's point.

The expression of the countenance is, for the most part, remarkably placid, like that of a person in a sound, natural sleep; occasionally there is an expression of anxiety mingled with stupor. The face is commonly pale; sometimes, however, it is flushed, and in rare cases the expression is furious.

Notwithstanding the purely narcotic or nervous symptoms which Opium produces in a vast proportion of instances, there is no doubt that it produces, in a few rare cases, those of irritation also. Thus, although it generally constipates the bowels, it has been known to induce diarrhœa, or colic, in particular constitutions. The soldier, whose case was quoted as having been accompanied with convulsions, had acute pain in the stomach for some time after swallowing the poison; and in another case, the accession of somnolency was attended with excruciating colic pains, of two days' duration. Another and more singular anomaly is the spontaneous occurrence of vomiting. Another anomaly has been mentioned by a writer of high authority (*Pyl*), viz., complete remission of all the symptoms, for days together, and subsequent renewal of them. The possibility of such a remission must be received with great hesitation. His case, however, was the following: "A man who had taken a large quantity of Opium, and became very dangerously ill, was made to vomit in twelve hours, and regained his senses completely. The bowels continued obstinately costive, but he had for some days no other symptom referable to the poison, when at length the whole body became gradually palsied and stiff, and he died on the tenth day. No importance can be attached to a solitary case, differing so widely from every

other. The only way in which Opium could cause death in such a manner, must be by calling forth some disposition to natural disease. The case was probably one of ramollissement, or inflammation of the substance of the brain.

We have an account, in the Memoirs of the Academy of Sciences at Paris, of the death of a young man at Cairo, from his being decoyed into taking a large dose of this medicine. Among a number of young people in that city, who frequently drank together, there was one who always boasted of his superior power to bear a large quantity of liquor; and his companions, determined to get the better of him for once, dissolved, without his knowing of it, a drachm of Opium in the liquor he was to drink. The consequence was, that instead of falling asleep, as they expected he would, he fell into violent deliriums, and afterwards into a profound and dead sleep. The next morning his comrades went to see him, and triumphed in their victory, but found him dying, looking livid, without pulse, and with his mouth closed; they sent for assistance, but in vain. After the death of the person, the body, arms, and thighs became covered with livid tumours, as big as the head of a young child, and these emitted an intolerable stench, almost as soon as the corpse was cold. There is one singular incident in regard to this case, which is, that this stench allured all the cats from the neighbouring houses, who came with great eagerness, and were hardly prevented from devouring the body.

Dr. Sigmond says: "It is only since the year 1716 that we have become acquainted with the marvellous stories which have been reported of the extraordinary excitement produced by Opium, an excitement totally different from that caused by vinous and alcoholic drinks. Free use of wine and spirits is followed by a high degree of irritation, but the use of Opium by calmness and quiescence. There is no ferocity or violence like that which succeeds the drinking of brandy to excess, nor any of that absolute dejection which is produced by whiskey

and gin. It is, however, succeeded by a collapse or reaction, which developes itself in imbecility, a loathing of food, and a repugnance to all the ordinary occupations of life. At the Opium-shops in Constantinople, the drug is rolled up in pills by the *marchand*, who knows his customers so well, that he can vary the size of the pill to meet their respective appetites. The patient reclines on a sofa, takes a glass of water to wash down the pill, and in a few moments those ecstatic dreams and chimerical scenes to which they are accustomed ensue. Sometimes the person makes his way home, assuming various grotesque attitudes, being followed by shouts of derision by the boys, or he recites elegant passages of poetry, and generally becomes very eloquent. The excitement having subsided, a stupor or sopor, which lasts about eight hours, comes on, which is attended by a gnawing pain in the stomach, but none of that nausea consequent on the use of vinous or alcoholic drinks. The intoxication of this drug produces an utter listlessness and dislike to everything around the individual, who cannot be happy or easy until he returns to the poison again. At length the appetite is destroyed; the mind becomes incapable of pursuing any study; there is a kind of delirium tremens; the muscles become flaccid, and almost incapable of obeying volition; the body becomes deformed, distortions take place; and at last death puts an end to the miserable existence of the Opium-eater."

The requisite dose of Opium to cause death must necessarily vary with circumstances. Pyl relates a case where sixty grains caused rapid death; another with thirty-six grains. Wildberg (*Practic. Handbuch für Phys.*, iii. 329) states that half an ounce of the tincture has proved fatal. Dr. Paris thinks that four grains may prove fatal. Habit has, of course, much to do with the dose necessary to prove fatal. In the *Confessions of an English Opium-eater*, the author declares that he took as much as eight thousand drops, or about nine ounces of Laudanum, daily. In 1848, a young woman was brought into the Uni-

versity College Hospital, who had been a confirmed Opium-eater, and had gradually increased the quantity from five drops to more than a pint of Laudanum daily. The Turks are in the habit of frequenting teriakchans, or Opium-shops, and many take large quantities of Opium daily. Mustapha Shatron, the Smyrna Opium-eater, was in the practice of swallowing three drachms daily; and Garcias, in his *History of Drugs and Spices*, speaks of a person who took ten drachms daily. The increasing attachment to wine in Turkey has diminished the consumption of Opium, but there are still to be found teriakis, or Opium-eaters, who will swallow in a glass of water one hundred grains daily. It is often made up in small lozenges, mixed with spices, and stamped with the words Masch Allah, literally, the "gift of God." Dr. Christen (*Op. Hist. Chem. atq. Pharm. invent.*) mentions the well-known fact that the celebrated author of the Brownonian system, in propounding his theory to his pupils, was in the habit of taking forty or fifty drops of Laudanum in a glass of rum before and during his lecture. The following fact is related by a very distinguished pupil of Brown, who, happening to call upon his preceptor one morning at an early hour, was surprised, as he entered his study, to hear him in the act of giving this order to his daughter: "Eppy, my dear, gie me the moderate stimulus o' one hundred and fifty drops of Laudanum in a glass o' whiskey."

Medical Uses (Homœopathic).—*Hahnemann's observations (Mat. Med. Pura, tr. par Jourdan)*: "Many chemists have lately given themselves incredible trouble in decomposing Opium, and deriving from it its constituent principles, such as morphine, narcotine, meconic acid, extractive matter, caoutchouc, a balsam, or thick oil, a substance like starch, gum, and a volatile substance. But the greater part of them disagree as much with regard to the mode of the analysis, by means of numerous and complicated operations, as in their statements of the chemical properties of these different substances. Neither do their

opinions agree with respect to the manner in which these different substances act. So that, everything considered, there is no certain beneficial result to be derived from these labours, either in regard to medicine in general or to the advantage of sick persons in particular.

"Homœopathy concerns itself only with simple medical substances, such as nature presents to us. Its only object is to find out the simplest ways of preparing them, in order that their inherent properties may all be equally obtained, and their curative virtues be developed. It aims at nothing but the good of mankind, and does not seek to establish its credit, as modern pharmacy does, upon knowing how to prepare from Opium the best poison to produce death without pain (the acetate of morphine). It can do without such dangerous artifices.

"The primary result of weak and moderate doses, during whose action the organism is affected in a passive manner, appears to be the exciting for a short time the irritability and activity of the muscles subject to its action, but also to diminish for a longer time that of those muscles which are not subjected to its influence; to excite the imagination and the courage, but also to deaden and stupify the feelings, the sensibility, and presence of mind. Under a longer continuance of its influence, the organism, by its power of reaction, produces a condition absolutely the reverse: a want of excitability and activity in the involuntary muscles, an absence of ideas, languor of imagination, with timidity and over-sensibility of the general feeling. Certain symptoms are more palpable in some individuals than in others. No medicine relieves suffering sooner than Opium. It is this property which has induced physicians to employ it so largely—a source of numberless evils. If the use of Opium in disease were as beneficial as it is frequent, no other medicine would make so many cures; but exactly the reverse takes place.

"The potency of this medicine and its rapid action indicate

that its effects should be thoroughly studied before using it, in expectation of real benefit; but such a result is only to be obtained by homœopathy.

"Now, as Opium has hitherto been little used, excepting as an antipathic and palliative, and its primitive effects only have been opposed to diseases, no medicine has appeared so soothing, or has so apparently suppressed morbid symptoms, although soon followed by results more distressing than the original disease. In short, nothing has caused more positive evil after apparent good.

"In all kinds of coughs, diarrhœas, vomiting, sleeplessness, melancholy, spasms, nervous affections, and, above all, in severe pain, Opium is indiscriminately given, on the ground that it is the best remedy in such cases. But its innumerable evil results do not appear among the primitive effects of Opium, which are exactly the reverse.

"Therefore we may easily imagine how few salutary and enduring effects can be obtained in the greater number of morbid and physical affections, and this is proved by daily experience. If Opium has been found to cure cough, diarrhœa, sickness, spasms, etc., etc., in a few cases, it is only when these symptoms first show themselves in persons previously in good health, and are but slight. In such cases, as, for instance, in a trifling cough caused by a recent chill, trembling arising from terror, etc., Opium will sometimes restore the patient quickly to health, because, if these symptoms are at once destroyed, the body is restored to its former condition, and the tendency to their return is suppressed.

"But because this palliative action upon slight and recent affections succeeds in a few instances, it does not follow that Opium really possesses the power of curing them permanently in all cases.

"It cannot convert them into sound health, because they are symptoms of other diseases, with which Opium does not coincide homœopathically in its primitive effects. For this reason, up

to the present time, it has seldom been used without injury to the sufferer in long-standing coughs, continued diarrhœa, habitual wakefulness, chronic sickness, spasms, anxiety, and tremors, when they have been some time established. Such symptoms, depending upon diseases between which and Opium there is no connection, cannot be permanently cured by it, so as to effect a durable establishment of health.

"In administering Opium for the chronic complaints above mentioned, we perceive that it is on the principle of soothing, procuring a temporary suspension of suffering; that subsequently it will relieve only by increasing the dose, which even then becomes less effective, and at the same time creates new disease, an artificial malady, still more serious and distressing than the first.

"But it is yet more striking to observe that, up to the present time, the use of Opium has been abused by giving it in all kinds of pains, however deep-seated and of however long standing. It shocks our understanding, and seems like returning to the absurd idea of an universal medicine, to expect from it the cure of diseases totally different to each other. But Opium does not, strictly speaking, belong to the class of remedies that soothe and cure pain. It is almost the only medicine that does not excite a single pain during its primitive action. Other medicines elicit their own peculiar symptoms, and are therefore capable of curing homœopathically the symptoms resembling them. But Opium has not the power of effectually curing any kind of pain whatever, because, instead of exciting pain during its first action, it extinguishes the sense of it, the inevitable reaction of which causes greater sensitiveness than before, and consequently increases suffering.

"Therefore, all pains soothed for the moment by Opium return after a short time, when the stupifying effect is past, as bad as before, and very often still more intense; so that at last they will only yield to stronger and larger doses, which create in return other serious diseases new to the sufferer. The use

of Opium in confirmed pain is therefore empirical, and deceptive to the patient, leading him to attribute to other diseases the mischievous consequences due to it alone.

" Chronic diseases are the test of true practice, because they never cure themselves. Slight and sudden affections cease, with or without medicine, evidently through the *vis medicatrix naturæ ;* but in acute disease, when medicines are given, to make that cure evident, it must be effected more rapidly and more perfectly than it could have been done by Nature.

" If Opium appears sometimes to cure pain in acute diseases, it is for the simple reason that, when the diseases are not dangerous, they run their course in a few days, and carry off with them the attendant pains.

" The only instance in which Opium appears really to cure pain, is the uncommon one in which, by its other primitive effects, it agrees homœopathically with the symptoms of the disease, and thus destroys it. Hence, of course, the pain must cease, but only by indirect means. Thus dysentery, being caused by the retention of substances in the larger intestines, some varieties of this disease, which are accompanied with heat and stupor, may be cured by Opium, between the primitive effects of which and their symptoms there is homœopathic concordance.

" Thus again, Opium can only calm the pains of the lead-colic, when it has cured homœopathically, by its primitive constipating property, the obstinate constipation occasioned by lead. It cures indirectly, and not by its stupifying quality; that is to say, in small doses, insufficient to produce stupor. But it never can make a sudden cure, without inconvenience following; so far from it, it is one of the principal remedies in disease with stupor in which the patient does not feel pain.

" Painful maladies, acute and chronic, can only be cured effectively by medicines whose primitive effects are analogous to their peculiar symptoms, and which also possess the faculty of exciting a kind of pain closely resembling those which charac-

terise the diseases. In this case, the remedy, in the smallest dose, cures both the disease and the pain with surprising quickness and certainty. This may be proved by any one's experience.

"By not recognising this law, and treating all pains antipathically by Opium, we have seen the use of this drug bring on a train of evil consequences—stupor, constipation, and other serious symptoms which appertain to Opium, and without which it would not be what it is. But persons have deceived themselves as to the character of these inevitable effects. Instead of perceiving in them results inherent in the nature of Opium, they have considered them as derived from some accessory properties, which they have taken unwearied pains to separate from it. Hence the various correctives that have been tried for two thousand years, in the hope of soothing spasms and pain, without bringing on delirium or constipation; of suppressing vomiting and diarrhœa, without causing stupor; of procuring sleep, without heat, headache, tremors, languor, depression, and extreme sensitiveness to cold.

"To effect this, Opium has been combined with warm aromatics, intended to prevent the disposition to chilliness that occurs in its reaction, aperients, etc. etc. Also, it has been attempted, by repeated filtration, to remove a supposed injurious resin. It has been digested for months, to dissipate a volatile narcotic principle, thought to be poisonous. And lastly, it has been attempted to purify it by roasting it at the fire, thus converting it into an invaluable panacea for all imaginable diseases.

"But this is all fallacious. By all these means Opium is only rendered less active, without changing its nature. Larger doses become necessary to produce the same end, and act precisely as in its primary state.

"Opium therefore is not, more than any other drug, hidden under accessory qualities; but its medicinal properties must become hurtful and dangerous when it is only used as an

antipathic remedy, and not according to the homœopathic law.

"Opium has this distinguishing property, that in irritable persons who are unaccustomed to it, especially in large doses, it causes a reaction, beginning very remarkably, very rapid, and often instantaneous, but which, either by its briefness, its rare occurrence, or its nature, must not be confounded with its principal and primitive effects. This reaction, rare and momentary, perfectly resembles the reaction of the human organism upon Opium, and may be called its shadow. The symptoms are, a death-like paleness, coldness of the limbs and whole body, cold perspiration, anxiety, trembling, trepidation, but very seldom any degree of pain.

"In cases of poisoning by strong doses of Opium, scarcely any of its primitive effects appear, but this peculiar commencing reaction gives place immediately to death, as Dr. Willis relates, and as I have myself seen.

"The people of the East, who so much abuse the use of Opium, are, as soon as intoxication ceases, in a continued state of opiatic reaction: their intellectual faculties are diminished; they are chilly, pallid, bloated, trembling, irresolute, weak, stupid, with an anxious countenance, and feelings of general uneasiness. They early have recourse to their accustomed number of Opium pills to revive heat and circulation, to reanimate their spirits, awaken ideas in their dull imagination, and restore activity to their paralysed muscles.

"The antidotes to dangerous doses of Opium are the tincture of Ipecacuanha, Camphor, but above all, strong Coffee used in various ways, together with friction. But if the body is become icy-cold, insensible, and the muscular fibre deprived of irritability, the palliative use of a warm bath must be tried.

"When Opium, given in large doses to calm pain, or remove diarrhœa, has produced, as it frequently does, real paralysis of the limbs, it is as impossible to be cured as that which is caused by violent electric disturbance.

"Some of the primitive effects of Opium last but two hours, but others, especially those ensuing from strong doses, continue longer, though perhaps they may not prove fatal.

"Opium is a medicine whose primitive effects are seldom employed homœopathically in human diseases."

APPLICATION ACCORDING TO THE HOMŒOPATHIC PRINCIPLE.—*Noack and Trinks:* "Opium shows that its principal effects are directed first on the cerebro-spinal nervous system, then on the ganglionic nervous system, the arterial vascular system, on the muscles subject to the will, the serous and mucous membranes; we recognise further its peculiar effects on organs of the mind, on the power of imagination, the faculty of the will, the memory, on the cerebellum, the liver, and other organs. Hahnemann has very correctly comprehended and pointed out the fundamental character of the effects of Opium, when he says, 'in the primary effect of small and moderate doses, in which the organism suffering, as it were, allows itself to be affected by the medicine, it seems to exalt the irritability and activity of the muscles subjected to the will, but to diminish that of the involuntary for a longer time; whilst it exalts the fancy and the mind in its primary action, blunts and stupifies at the same time the external senses, common sensation, and consciousness.' As an after-effect, he describes want of irritability and of activity of the voluntarily, and morbidly-exalted excitability of the involuntary muscles, absence of ideas, and obtuseness of the fancy, with timidity, with over-sensibility of common sensation. In large doses, the symptoms of the primary action rise not only to a far more dangerous height, but also pass through each other with great haste, often intermixed with secondary effects, or rapidly passing into these. According to Rau, it is distinguished by excitation of the nervous system in its central points, and by antagonistic depression of the peripheric activity of the same. It weakens the energy of the muscles of the mucous membrane; excites, on the contrary, the activity of the veins; increases the secretion of bile and the

transpiration through the skin and lungs (*Werth der Hom. Heilk., neue Ed.*, p. 96). The fundamental character of most of the physiological effects of Opium bears the impress of excitation, of the erethismus nervosus in the cerebro-spinal nervous system, with simultaneous raising of the arterial vascular action, and in particular, raising and elevation of the cerebral life in its entire totality; whilst, on the contrary, in its effects on the splanchnic nerves and on the venous system, and more especially the abdominal venous system, the character of torpor and of neuro-paralysis is most significantly expressed.

"Only large doses of Opium act at the same time narcotically—oppressing cerebral life and paralysing and deadening the vital power of the entire cerebro-spinal nervous system. Among the striking physiological effects of Opium, we meet with very many reactions and also many secondary effects. These apparently opposite states are therefore to be considered physiological and therapeutical, as just so many indications for the curing of similar natural morbid states: thus, to mention only some, the stupor produced by Opium, the comatose, stupified state, is just as important an indication as the exalted state of the fancy excited by it; the drowsiness just as important as the sleeplessness; the retention of the stools as the diarrhœa; the spasms as the paralysis; and even the absence of pain and of sensibility mentioned by Hahnemann, which Opium produces, seems to be one of its most frequent reactions, which gives occasion to presume that Opium is capable of producing pains, which is altogether negatived by Hahnemann, but which is confirmed by more recent observations, and raised above all doubt by the practical experience of credible authorities; for there are actually nervous pains of the worst and most obstinate kind (neuralgia of the sensitive nerves and also of the splanchnic nerves) cured by the sole use of Opium, just as by Stramonium and Conium, to which substances the capability of producing pains, consequently of curing

them, is in like manner wholly denied. Let us compare on this subject the excellent treatment of Dr. George Schmid, who, next to Hahnemann, has given the best commentary on the physiological effects of Opium. At all events, Opium deserves on the part of the homœopathic physicians, as George Schmid very truly remarks, greater consideration than has been given by them, more especially in acute diseases (a considerable number of which, as English physicians experience, may be checked and cut short in their further development by the employment of Opium)."

The following are some of the chief affections, according to Noack and Trinks, in which Opium has been successfully employed. Ailments consequent on fright and fear. Excessive sensitiveness of the nervous system to external impressions. Starting of the body after severe surgical operations. Lethargy. Soporous condition in typhoid fevers. Coma in fevers. Soporous intermittent fever. Typhus cerebralis. Delirium tremens potatorum. Vertigo, particularly after fright. Apoplexy, both sanguineous and nervous. Acute hydrocephalus during the comatose stage. Hemicrania and megrim. Cerebral affections from a stroke of the sun. Colica saturnina. Neuralgia cœliaca. Obstinate constipation. Spasms. Fatiguing tight cough, constantly followed by yawning. Neurocarditis, with great excitement, trembling, and double beating of the heart. Anguish and oppression, and as a valuable palliative in organic affections of the heart.

ANTIDOTES.—Pereira (*El. of Mat. Med.*, p. 1767) gives the following directions. "In the case of poisoning by Opium, the first indication is to remove the poison from the stomach; the second is to neutralize any of it which may be retained in the system; and the third is to obviate its injurious effects. Until other and more powerful evacuant means can be obtained, we should have recourse to tickling the throat with the finger, or with a feather dipped in oil. As domestic emetics, mustard or salt may be administered, a dessert-spoonful of flour of mus-

tard, or a tablespoonful of salt stirred up in a tumbler of water. The stomach-pump is, however, the best means of evacuating the contents of the stomach, and, when it can be performed, should always be preferred. The emetics usually resorted to are the sulphates of zinc and copper, the first is preferred; it should be given in doses of from one to two scruples. The dose of sulphate of copper is less; from five to fifteen grains. Ipecacuanha or tartar emetic may be resorted to when the other means are not at hand. Clysters containing fifteen to twenty grains of tartar emetic may be administered; or, in extreme cases, a solution of one or two grains of this salt may be injected into the veins, taking care to prevent the introduction of air." There are no known agents which completely destroy the activity of Opium by their chemical properties, and which can be resorted to in these cases. Infusion of galls, however, is regarded as the best, though an imperfect antidote. Magnesia, as well as iodine and chlorine, have also been recommended.

The following therapeutical means to obviate the effects have been found efficacious.

Rousing the patient, by exercising him up and down a room between two men. It may be sometimes necessary to continue this for several hours. *Cold affusion*.—Dashing cold water over the head and chest is an exceedingly valuable agent. It oftentimes assists the operation of emetics. Dr. Boisragon (*Lond. Med. Gaz.*, March 6, 1840) recommends the alternation of impression, with hot or cold water, and at different parts of the surface of the body. *Irritants*.—The application of irritants to the body is also sometimes a useful practice; thus blisters and sinapisms to the feet. *Stimulants*.—Ammonia, camphor, musk, coffee, and other stimulants, are sometimes used to advantage. (Hahnemann states that very strong coffee, either by the mouth or by injection, is an excellent antidote.) *Vegetable acids*.—Orfila has found the vegetable acids the best anti-narcotics. For this purpose, drinks of vinegar and water, lemon-juice, or cream of tartar and water, should be given

every ten minutes. These agents, however, should not be resorted to till the poison has been evacuated from the stomach. *Artificial respiration.*—As a last resource, this is on no account to be omitted. Death has on several occasions been apparently averted by it. An interesting case, in which it was successfully practised, was published many years ago by Mr. Whately (*Med. Obs. and Inq.*, vol. vi. p. 351). Natural respiration was extinct when it was begun. In another successful case, related by Mr. Smith (*Med. Chir. Trans.*, vol. xx. p. 86), artificial respiration was kept up for four hours and a half (with an interval of an hour); when it was commenced there was no pulse at the wrist, and only a slight irregular action of the heart, indicative that life was not quite extinct. A third case, also successful, is that of an infant ten days old, who had taken twenty-five to thirty drops of Laudanum, intended for the mother, and had lost the power of deglutition, was comatose, and had several convulsions. Artificial respiration was sustained for two or three hours.

Antidotes of Small (Homœopathic) Doses.—*Bell. Camph. Coff. Hyos. Ipec. Merc. Nux V. Plumb. Stram. vinum.* Opium antidotes *Lach. Merc. Nux V. Plumb. Stram.*

XLVII.

PARIS QUADRIFOLIA.

Herb Paris. True-love. One Berry.

Synonyms.—Herba Paris, *Raii Syn.*, vol. i. p. 264; *Germ. Em.*, 405, f.; *Park. Theatr.*, 390; *Camer. Epit.*, 835, f. Paris, *n.* 1006, *Hall Hist.*, vol. i. p. 429. Solanum quadrifolium bacciferum, *Bauh. Πιν.*, p. 167. Uva lupulina seu Aster, *Trag. Hist.*, 307, f. 308. Aconitum pardalianches, *Fuch. Hist.*, 87, f—k, 48 f. Paris quadrifolia, *Linn.*, *Sp. Pl.*, p. 526; *Willd.*, vol. ii. p. 471; *Flor. Brit.*, p. 431.

Foreign Names.—*Fr.:* Parisette, Raisin de Renard. *Port.:* Parisetta. *Ital.:* Uva di Volpe. *Span.:* Ubas de Zooro. *Germ.:* Die Einbeere. *Dut.:* Wolfsbegie. *Dan.:* Elbœr. *Swed.:* Nollbar. *Russ.:* Woronei glas.

Nat. Order, Smilaceæ, *R. Brown, Lindl.;* Asparagi, *Juss.*—Octandria, Tetragynia.

Gen. Char.—*Calyx* inferior, of four spear-shaped, acute, spreading, permanent leaves, the length of the corolla. *Petals* four, spreading, awl-shaped, equal, permanent, resembling the calyx, but narrower and alternate with it. *Filaments* eight, awl-shaped. *Anthers* long, of two cells, attached to the middle of the filaments. *Styles* four. *Stigmas* oblong, downy on the upper side. *Berry* nearly globular, with four blunt angles and four cells. *Seeds* several, attached in two rows to a central receptacle.

Spec. Char.—*Leaves* egg-shaped, about four.

History.—Gerarde (*Historie of Plants*, 329) states that Herba Paris was supposed to be by some the Pardalianches of the earlier writers, and was used as an antidote against poisons; that "Mathias de Lobel and Petrus Pena, who, having often

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Fig. 1, 2. The stamens, different views. 3. Germen. 4. Ditto, magnified. 5. The berry entire, with the persistent periauth. 6. Section of the seed-vessel. The drawing is taken from a natural specimen found at Clifton, near Bristol. The dissections are from Hayne.

Paris Quadrifolia.

A.M Traice, lith.

Thos Harrild imp:

read that it was one of the Aconites called Pardalianches, and so by consequence of a poisoning qualitie, they gave it unto dogs and lambes, who received no hurt by the same; wherefore they further prosecuted the experience thereof, and gave unto two dogs, fast bound or coupled together, a dram of arsenicke, and one dram of mercurie sublimate, mixed with flesh, which the dogs would not willingly eat, and therefore they had it crammed down their throats. Unto one of these dogs they gave this plant as an antidote, whereby he recovered his former health again in a few hours; but the other dog, which had none of the medicine, died incontinently.

"The people of Germany do use the leaves of Paris Herb in green wounds, for which it is very good, as reporteth Joachimus Camerarius, who believed that the powder of the root, given to drinke, doth speedily cease the gripings and paine of the colicke."

Parkinson says: "The roots boiled in wine help the colic, and the leaves applied outwardly repress tumours and inflammations."

According to Coste and Willemet, the root may be given in doses of one or two scruples, as an emetic, instead of Ipecacuanha.

The leaves and berries have been given in allopathic medicine, as an antispasmodic in the hooping-cough, and various *convulsive diseases*, with the caution that great care is necessary in exhibiting this medicine, as *convulsions* and death are caused by an over-dose.

At Calonga, in Russia, the leaves, before the maturity of the seeds, are prescribed against madness.

Description.—The plant is perennial, and flowers in May and June. The *root* is creeping, somewhat fleshy. *Stem* quite simple, from eight to twelve inches high, upright, smooth, round, and naked, except at the top. The *leaves* are broadly egg-shaped, oval, or inversely egg-shaped, pointed, growing in a whorl at the top of the stem, usually four, rarely three,

five, or six; of a dull green. *Flower-stalk* upright, angular, twisted, simple, and single-flowered. *Calyx-leaves* three-ribbed, consisting of four lanceolate green leaves. The *corolla* of four linear acute ones, of a similar colour, and both remaining till the fruit is ripe. *Anthers* yellow. *Styles* purplish-black. *Germen* violet; every other part of the flower is of a yellowish-green. *Berry* purplish-black.

The generic name Paris is derived from *par*, *paris*, equal, on account of the regularity of its leaves and flowers; four of its multiples generally prevailing.

Geographical Distribution.—Paris Quadrifolia is a native of most countries of Europe. (A species, Paris polyphylla, is found in Nepaul.)

In this country it is rare, but still found in many parts. Its chief localities are at Cossey, near Norwich. Headington-wick Copse, near Oxford. Wytham Wood, Berks. Spernall Park, Warwickshire. Woods near Eastnor, Herefordshire. In a wood near Hampstead. In Hanging Wood, near Harefield, Middlesex. At Selborne, in Hampshire. At Clifton, near Bristol, Somerset. In Scotland, near Dalkeith; and in Ireland, at Killarney.

Parts used in Medicine, and Mode of Preparation.—The Entire Plant is used in homœopathic medicine. It should be gathered at the moment it runs to flower. The juice should be then expressed, and treated like all other fresh plants.*

Physiological Effects.—*On Animals.* Gesner asserts that the berries prove noxious to poultry.

On Man.—Herb Paris is one of the tribe of vegetables called narcotic, and when received into the stomach in any considerable quantity produces violent effects on the nervous system, such as nausea, vomiting, vertigo, delirium, and convulsions. Every part of the plant seems to possess this property, but the leaves and berries are supposed to be most

* A distinct preparation from the berries ought to be made.

active. Conrad Gesner (*Epist. Med.*, vol. i. p. 53) swallowed a drachm of it in wine; copious sweats and dryness of the throat followed. Its vernacular name, True-love, arises from its having been given as love potions, owing to the peculiar symptoms it produces. Its French name, *Etrangle Loup*, sometimes given to it, seems to indicate its energetic properties. Bulliard says that the seeds excite vomiting. The leaves cause cramps in the stomach, when given in large doses.

MEDICAL USES (HOMŒOPATHIC).—This medicine was added to our Materia Medica by Hartlaub and Trinks (vide *Archives*, vol. iii.) Hahnemann states that it has been found useful in cramps. It has as yet not been much employed in homœopathic medicine, but has been found useful in convulsions, spasmodic coughs, in some kinds of bronchitis, rheumatism, palpitation of the heart, etc.

ANTIDOTE.—Coffea.

XLVIII.

PULSATILLA NIGRICANS.

(ANEMONE* PRATENSIS.)

Meadow Anemone, Pasque Flower or Windflower.

SYNONYMS.—Anemone pratensis, *Flor. Dan.*, 611. Pulsatilla nigricans, *Pharm. Edinb.* Pulsatilla flore minore nigricante, *Bauh.* Πιν., p. 177. Pulsatilla flore minore, *Ger. Em.*, p. 386. Herba venti, *Trag.* Pulsatilla vulgaris, saturatiore flore, *Clus. Hist.*, p. 246. Pulsatilla flore clauso obsoleto petalis reflexis, *Helw. Puls.*, t. ii. p. 65. Pulsatilla foliis decompositis pinnatis, flore pendulo, limbo reflexo, *Hort. Cliff.*, 223. Pulsatilla secunda, *Boerhaave.* Anemone pedunculo involucrato petalis apice reflexis, foliis bipinnatis, *Linn.* Pulsatilla pratensis, *Miller.*

FOREIGN NAMES.—*Fr.:* Pulsatille noirâtre, Anémone de Près, Coquelourde noirâtre. *Germ.:* Wiesen pulsatilla, Schwartzliches Küchenschille, Schwartzliche Windblume.

Nat. Order, RANUNCULACEÆ, *Juss.*—POLYANDRIA, POLYGYNIA.

GEN. CHAR.—*Involucrum* of three divided leaves, which are more or less distant from the flower. *Petals* from five to fifteen, inferior, regular, in one or more rows, imbricated in the bud, deciduous. *Filaments* numerous, hair-like, about half the length of the corolla. *Anthers* terminal, of two round lobes, which burst outwardly. *Germens* superior, numerous, collected into a round or oblong head. *Styles* tapering, short. *Stigmas* simple, bluntish. *Seeds* numerous, pointed, tipped with permanent *styles*, which in some species become feathery tails.

SPEC. CHAR.—*Peduncles* involucred. *Petals* reflexed at their apex. *Leaves* bipinnate.

HISTORY.—Dioscorides (lib. ii. p. 172) describes three species

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Fig. 1. The Anemone pratensis. 2. Anemone pulsatilla; a figure of each being given to show the distinctive characters of the species. 3. An enlarged section of the flower. 4. The style and stigma.

* From the Greek *ανεμος*, the wind, because many of the species grow in exposed situations. *Pulsatilla* is from *pulso*, to beat, from its being perpetually agitated by the air.

Pulsatilla
(1. Anemone Pratensis L.
2. Anemone Pulsatilla L.)

E.H. delt., A.M. France, lith.

Thos Harrild, imp.

of Anemone. The first, or ἡμερος, is, according to Sprengel, the A. coronaria; the second, or ἀγρια, is the A. stellata; and the third, with dark leaves, the A. nemorosa. He also divides them into the cultivated and the wild. He recommends them principally as external applications, as for foul ulcers, in inflammation of the eyes, et subdita autem in pesso menstrua ciunt.

The Arabian physicians employed them for the same purposes as Dioscorides.

Pliny (*Holl. Trans.*, book ii.) recommends all kinds of the "wind floure tree, in headache and inflammations thereof; cures the infirmities of the teeth; and laid to the eyes as a cataplasme, represseth the vehement flux of watery humours thither.

"The magicians and wise men attribute much to these hearbs, and tell many wonders of them; namely, that a man should gather the first that he seeth in any yeere, and in the gathering to say these words: I gather thee for a remedie against tertian and quartan agues, which done, the partie must lap and bind fast in a red cloth the same floure, and so keepe it in a shadie place, and, when need requireth, to take the same and either hang it about the necke, or tie it to the arme or some other place. The root of that anemone which beareth the red floure, if it be bruised and laid upon any living creature whatsoever, raiseth a blister by that caustic and corrosive vertue which it hath, and therefore it is used to mundifie and cleanse filthie ulcers."

Cullen (*Mat. Med.*, vol. ii. p. 215), writing of Pulsatilla nigricans, says: "This is one of the remedies which we owe to the benevolent industry of Baron Störck; but he has ascribed to it so many wonderful effects that his credit is hurt with many persons, and has made many neglect to give this remedy a frequent and fair trial." He classes it under the head of stimulants.

It was upon the authority of Baron Störck (*Libell. de Usu Medico Pulsat. Nigr.*, 1771) that this plant, with several others of great activity, was received into medical use. He

recommends it as an effectual remedy for most of the chronic diseases affecting the eye, particularly amaurosis, cataract, and opacity of the cornea, proceeding from various causes. He likewise found it of great use in nodes, nocturnal pains, ulcers, caries, indurated glands, serpiginous eruptions, melancholy, and palsy. The Baron himself, who had for two years suffered much from a violent contusion of his eye, took this remedy, which he soon found occasioned a severe lancinating pain in the part affected; this he considered as a favourable omen in the specific action of the plant, an opinion which was afterwards confirmed in a great number of patients. Two cases of amaurosis, three of cataract, and seven of affections of the cornea, we are told, were either entirely cured or generally benefited by the exhibition of this remedy; several cases proving its success in the other disorders which we have noticed above. Many German physicians have since tried the effects of this medicine in diseases of the eyes, and with success. Of these we may mention Guldbrand, Hotz, Mohrenheim. Several others, however, bear testimony of its inefficacy in these diseases, as Schmucker, Bergius, and Richter, who increased the dose of this vegetable even beyond that directed by Störck (*Woodv. Med. Bot.*, vol. iii. p. 400).

Description.—Pulsatilla nigricans is perennial, flowers in May, and a second time in August or September. The *root* is thick, short, and sends off several strong fibres. The *flower-stem* is smooth, beset with soft hairs, near the top furnished with a lancinated involucrum, and rises about six or eight inches in height. The *leaves* are radical, bipinnated. *Segments* narrow, short, linear, and of a glaucous green colour. It has no *calyx*. The *petals* are six, oblong, hairy, of a blackish-purple colour, and their apices are turned backwards. The *filaments* are numerous, slender, about half the length of the petals, and furnished with yellow antheræ. The *germens* are numerous, collected into a bundle, and supplied with long styles, terminated by tapering, blunt stigmata. The *seeds* are placed on

the common receptacle, and retain their styles, which, when the seeds go off, resemble long downy tails. It was first cultivated in England, by Mr. Miller, in 1731, and in our gardens it very much resembles the A. pulsatilla, which would, in all probability, prove a good substitute for it.* The principal distinction between these species, as they grow naturally, are taken from the flower, which in this species is more pendulous, of a darker colour, and has the apices of the petals reflexed. The stem is also said to be less hairy and shorter than that of the Pulsatilla, to which may be added, that the leaves of the A. pratensis are somewhat tomentose, while those of the A. pulsatilla are bright green.

GEOGRAPHICAL DISTRIBUTION.—Pulsatilla nigricans (A. pratensis) is found in Scandinavia, Denmark, Piedmont, and Germany, where it grows in open fields. Very common in the barren, stony fields of Oeland. It is also found in some parts of France, Russia, and Turkey.

PARTS USED IN MEDICINE, AND MODE OF PREPARATION.—For homœopathic purposes, the Whole Plant is taken; the juice is expressed and treated as in all other fresh plants.

PHYSIOLOGICAL EFFECTS.—This plant has an extremely acrid taste when chewed, and corrodes the tongue and fauces, and the dried plant retains a considerable share of acrimony.

Hahnemann says: "The boring, cutting pain that the internal use of the Meadow Anemone (*Anemone pratensis*) causes in weak eyes, led to its successful employment in amaurosis, cataract, and opacity of the cornea; the cutting headache caused by the internal employment of the inflammable crystalline salt, obtained by distillation with water, would lead us to employ this plant in a similar case." The sensible operation of the Pulsatilla was nausea and vomiting, particularly when dis-

* Although A. pulsatilla may be very similar in its effects to A. pratensis, yet, as Hahnemann undoubtedly describes and tested the latter, we ought always to use the A. pratensis in making our preparations, and it would be as well to designate it under its specific name, *Pulsatilla nigricans*.

tilled water was used, with sometimes colicky pains and looseness. In Störck's cases, of which he gives thirty, the following symptoms usually showed themselves. Violent pain in the head; wandering and shooting pains in the arm affected, with violent itching; tormina in the bowels. Quibusdam fœminis fluxum menstruum præternaturalite suppressum, iterum excitat et redigit in ordinem. Urina inde copiose fluxit. Violent pains in the eyes, with lachrymation; salivation, lasting some days; burning, wandering, shooting pains in the right foot as far as the groin; pains in the os sacrum, preventing sleep; and it seems that, in all the cases of amaurosis and cataract cured, violent pains in the eyes were produced on first taking the medicine. His preparations of this plant were the following: ℞ Extracta Pulsatillæ nigricantis, gr. ij; Sacchari alb., ʒi: m. f. pulv. tenuissimus diu terendo in mortario marmoreo. Of this he gave ten grains night and morning, until symptoms appeared.

Christison (*Treatise on Poisons*, 4th edit., p. 598) says: "The genus Anemone produces virulent effects on the animal economy. The most pungent species I have examined are the A. pulsatilla, A. hortensis, and A. coronaria; the A. nemorosa and A. patens are less active; and A. hepatica, as well as A. alpestris, are bland. The powder of the A. pulsatilla causes itching of the eyes, colic, and vomiting, if, in pulverizing it, the operator do not avoid the fine dust which is driven up. And Bulliard (*Hist. de Pl. Vén. de France*, p. 178) relates the case of a man who, in consequence of applying the bruised root to the calf of his leg for rheumatism, was attacked with inflammation and gangrene of the whole leg. The same author mentions an instance where violent convulsions were produced by an infusion of the A. nemorosa, and the person was for some time thought to be in great danger.

"The activity of the Anemones is owing to a volatile oil, which, when left for some time in the water with which it passes over in distillation, is converted into a neutral crystalline body, called Anemonine, and a peculiar acid, called Anemonic acid."

Medical Uses (Homœopathic).—Hahnemann remarks, that Pulsatilla is of great service in toothache, where the pain in the gum is of a gnawing, fine, shooting character (as if the nerve were violently drawn, and suddenly let loose again), with chilly feeling, combined with paleness of the face, occurring most frequently in the evening, more rarely in the morning, increased by a warm room and the heat of the bed; relieved by cool air blowing upon it; not increased by chewing, but brought on by the use of the toothpick. It affects persons of mild, quiet disposition, disposed to shed tears.

It appears that many symptoms produced by this powerful plant are analogous to those frequently met with in disease; consequently, it may often be homœopathically used with success.

It is not less valuable in chronic disorders than in acute ones, for its action, even in small doses, continues from ten to twelve days.

It is extremely proper, in administering Pulsatilla, or any other homœopathic medicine, to observe with great care the correspondence, both in the bodily and mental symptoms, between the remedy and the disease; or between the temperament of the person on whom the medicine is proved and the patient to be cured.

The use of Pulsatilla is most important when, in the bodily diseases to which it is adapted, there exists at the same time a wrong disposition of mind, and propensity to quiet melancholy, or to mildness and resignation, especially if the patient, when in health, is gentle and benevolent.

It is chiefly adapted to lymphatic constitutions, and not so appropriate to persons of decided character and quick in their movements, though of a kind disposition.

It is favourable when the patient feels occasional chilliness, and has no thirst.

Pulsatilla is an excellent remedy for women; particularly when there is long wakefulness at night, and when the symptoms

are worse towards evening. It is serviceable in gastric derangement caused by eating pork.

If Pulsatilla has been taken inappropriately, or in too strong a dose, and bad consequences ensue, they must be met, according to circumstances, either by Chamomilla, when drowsiness, languor, and dullness of the senses prevail; Coffea, when there is great anxiety; Ignatia, or Nux. Fever, a disposition to shed tears, and pains caused by Pulsatilla, are readily subdued, with all consecutive affections, by the tincture of crude Coffee.

Clinical Observations.—In the clinical observations of Noack and Trinks (op. cit.), Pulsatilla has been found useful in a great variety of affections and symptoms. It is particularly serviceable in all diseases of the whole nervous system. In many rheumatic pains. In affections of women. In measles. Many affections and gastric diseases, particularly in persons of mild temperament, and sleeplessness. Hemicrania. Cephalalgia. Amblyopia. Otitis, and inflammation of the external meatus auditorum. Toothache. Affections of urinary organs. Strangury. Retentio urinæ. Prostatitis. In those affections peculiar to the female sex. Typhoid pneumonia. Dyspnœa. Asthma, particularly that occasioned by the vapour of sulphur. Diseases of the heart. Affections of the right ventricle. Ischias. Acute rheumatism of the joints. Erratic rheumatism. Pains in the limbs. Varices. Varicose veins. Dropsical swellings of the legs, etc.

Antidotes.—Cham. Coff. Ign. Nux V., and Vinegar. Pulsatilla antidotes Agar. Amb. Bell. Cham. Chin. Colch. Ferr. Ign. Lycop. Merc. Plat. Ranun. Sabad. Stram. Sulph. Tartar.

A E del H Sowerby, lith.

Ranunculus bulbosus.

F. Reeve, imp.

XLIX.

RANUNCULUS.*

RANUNCULUS BULBOSUS.†

Bulbous Crowfoot. Buttercups.

Synonyms.—Ranunculus bulbosus, *Linn.*, *Sp. Pl.*, 778; *Huds.*, 241; *With.*, 508; *Relb.*, 213; *Sibth.*, 173; *Curt. Lond.*, fasc. i., t. 38; *Mart. Fl. Rust.*, t. 28; *Raii Syn.*, 247; *Sow. Brit. Bot.*, vol. v. p. 243. Ranunculus nona species, *Cord.*, p. 121. Ranunculus tuberosus, *Dodon. Purg.*, p. 290; *Hist.*, p. 431. Ranunculus pratensis radice verticelli modo rotunda, *C. B.*

Foreign Names.—*Fr.:* Rénoncule. *Ital.:* Ranunculo. *Span.:* Ranunculo. *Germ.:* Hahnen-fuss.

Nat. Order, Ranunculaceæ.—Polyandria, Polygynia.

Gen. Char.—*Calyx* inferior, of five, rarely fewer, egg-shaped, concave, somewhat coloured, deciduous sepals, not lengthened at the base. *Corolla*, of five, rarely eight or ten, blunt polished petals, each with a nectariferous scale on the inside, at the base. *Filaments* numerous, not half the length of the petals. *Anthers* roundish, linear, or heart-shaped, terminal, upright, of two cells, bursting at the outer edges. *Germens* superior, numerous, collected into a head. *Styles* none. *Stigmas* small, reflexed. *Pericarps* or *canopsides* (*seeds* of Linn. and Smith) numerous, egg-shaped, somewhat compressed, either smooth, striated, tuberculated, or prickly, each tipped with a point or hook, arranged in a globose or cylindrical head. *Seed* erect, one in each pericarp.

Spec. Char.—*Leaves* divided, pairing, ternate, three-cleft, cut. *Pericarps* smooth. Perennial. *Stem* many-flowered. *Calyx* reflexed. *Seeds* compressed, smooth. *Root* bulbous.

History.—The genus Ranunculus forms a very numerous

Fig. 1. The stamens and pistil. 2. Single stamen.

* Ranunculus, from *rana*, a frog, from the plants delighting to grow where frogs abound. More probably the division of the leaves in all these plants suggested the idea of a frog's foot; which supposition is borne out by the English name, *Crowfoot.*

† Two species have been proved in homœopathic medicine, viz., R. bulbosus and R. sceleratus.

tribe of plants,* and was known to the ancient physicians under the name Βρατραχιον. Hippocrates used two species. According to Paulus Æginetа, there were four varieties described in ancient medicine, which Sprengel is of opinion were the *R. asiaticus*, *R. lanuginosa*, *R. muricatus*, and *R. aquatilis*. Dioscorides employed them as external applications for the removal of leprous nails, psora, steotomatous and other tumours; as a fomentation to chilblains, and as an application to remove toothache. Galen, Paulus Ægineta, and the Arabian physicians all recommend them as powerful escharotics.

Gerarde says: "There be divers sorts or kinds of these pernitious herbes comprehended under the name of Ranunculus or Crowfoote, whereof most are very dangerous to be taken into the body, and therefore they require a very exquisite moderation, with a most exact and due manner of tempering; not any of them are to be taken alone by themselves, because they are of a most violent force, and therefore have the great nede of correction. The knowledge of these plants is as necessarie to the phisition as of other herbes, to the end they may shun the same, as Scribonius Largus saith, and not take them ignorantly, or also if necessitie at any time require that they may use them, and that with some deliberation and special choice and with their proper correctives. For these dangerous simples are likewise many times of themselves beneficiall and oftentimes profitable; for some of them are not so dangerous but that they may in some sort and oftentimes in fit and due season profit and do good." And writing of two of the species, Ranunculus Illyricus, and Ranunculus bulbosus, which is also found in Illyria and Sclavonia, he says: "This

* Sixty-one species are enumerated by Willdenow; one hundred and fifty-nine by Decandolle in his *Prodromus*. Fifteen species are natives of Britain. They all possess acrid and very similar properties; and, as Culpeper says, "to describe them all would tire the patience of Socrates himself, but because I have not yet attained to the spirit of Socrates, I shall but describe the most usual."

Illyrian Crowfoot is named in Greeke, Σελινον αχριον, that is, Apium sylvestre, or Wild Smallage; also Herba Sardia;* it may be, saith my author, that kind of Crowfoot called Apium risus and Γελωτοφη; and this is thought to be that of Gelotophyllis, of which Pliny maketh mention in his twenty-fourth Booke, 17 chap.; which being drunke, saith he, with wine and myrrh, causeth a man to see divers strange sights, and not cease laughing till he hath drunk pine-apple kernels with pepper. I think he would have said until he be dead; because the nature of laughing Crowefoot is thought to kill laughing; but without doubt the thing is clean contrary, for it causeth such convulsions, cramps, and wringings of the mouth and jawes, that it hath seemed to some that the parties have died laughing, whereas, in truth, they have died with great torment."

The acrid principle of the Ranunculus is well known to beggars, who form with it ulcers on their legs to excite pity. This custom was prevalent in Gerarde's time, of which he writes thus: "Cunning beggers do use to stampe the leaves, and lay it unto their legs and armes, which causeth such filthy ulcers as we daily see (among such wicked vagabondes), to moove the people the more to pittie."

It has been generally discarded from allopathic medicine, chiefly owing to its virulent acrid effects, which, if given in too large doses, has produced dangerous symptoms; but it is still kept in some of the shops as a vesicatory, although the use of cantharides is much more prevalent. "With a view to their external stimulation, the Ranunculi have been used advantageously in rheumatism, in hip disease, hemicrania, and fixed pains of various descriptions. Amongst the old practitioners who have recorded instances of their effects are Baglivi, Störck, and Sennertius. A curious practice formerly prevailed in several countries of Europe of applying the Ranunculus to the

* Some suppose this is the Œnanthe crocata; others, the Ranunculus flammula.

wrists or fingers for the cure of intermittent fevers. This is mentioned by Van Swieten, Tissot, and some others. In hemicrania it was applied to the head, and in this case did not produce a discharge nor break the skin, but occasioned tumefaction of the hairy scalp. It was also employed in local spasmodic complaints and in fixed pains; and Crowfoot is known to be one of the ingredients in Plunket's epithem for cancer." Dr. Withering states that the juice of the Ranunculus flammula is an instantaneous emetic, "as if nature had furnished an antidote to poisons from among poisons of its own tribe; and it is to be preferred to almost any other vomit in promoting the instantaneous expulsion of deleterious substances from the stomach."

DESCRIPTION.—The Ranunculus bulbosus is a perennial plant, flowering in May and June, "when the meadows are enamelled with its shining yellow blossoms in the greatest profusion." The *root* is a round, solid bulb, about an inch in diameter, increasing by offsets from the top, and sending out from its base many long stout fibres. *Stems* several, erect, a foot high, branched, leafy, round, hairy, many-flowered, destitute of trailing shoots or runners. *Leaves* stalked, variously cut, more or less hairy. *Flowers* terminal, solitary, on angular furrowed stalks, rough with erect bristly hairs. *Petals* of a deep shining yellow. *Nectary* covered by a notched scale. *Fruit* globose. *Seeds* orbicular, greatly compressed, bordered, smooth, and even tipped with a short blunt beak. This is one of the most acrid and even caustic species.

GEOGRAPHICAL DISTRIBUTION.—The genus Ranunculus is distributed all over Europe, Asia, and America. The Ranunculus bulbosus is very common in Europe, as well as in North America, in meadows and pastures, flowering throughout the summer.

PARTS USED IN MEDICINE, AND MODE OF PREPARATION.—The Entire Plant, gathered in June during its flowering. The following directions are given in *Stapf's Add. to the Mat.*

Med. Pura: "The plant which was used in our provings was gathered in June, and, together with the blossoms, pounded in the mortar, after having been cut up in small pieces. The juice was squeezed through linen, and filled in a glass containing about a tablespoonful of alcohol, in order to prevent the decomposition of the juice, while the juice of the other portions of the plant was pressed out. The bulb was cut into twelve or sixteen pieces, from which the juice was likewise expressed in a similar manner, after they had been previously stamped into a kind of pap. The whole of the expressed juice having been put together, both that of the plant and of the bulb, it was mixed with equal parts of the strongest alcohol, and was put in a well-closed chest, being shaken several times a day; the transparent, dark brown essence was poured into a well-stoppered glass, leaving the sediment behind. The twelve or sixteen pieces into which the bulb had been divided, and which had been moistened with an ounce of alcohol during the pounding, furnishing scarcely as much juice as was equal to the alcohol which had been added; the pounded fragments of the bulb were put into a glass and well mixed with two volumes of alcohol, and after having been left standing three days as above, the bright red tincture thus obtained was mixed in equal portions with the juice of the whole plant. All the varieties of Ranunculus owe the greatest portion of their virtue to a so-called acrid principle, which has no chemical existence, and is only known by its dynamic action upon the organism. According to Krapf (*Exp. de Nonnull. Ranun. Ven. Qual.*), this acrid principle of the Ranunculus is neither acid nor alkaline, and very volatile; hence it is that the Ranunculus loses almost its entire virtue by boiling, drying, etc."

The acridity of the leaves and stems of the Ranunculus bulbosus is various during the period of fructification. The leaves near the root, as well as the other leaves, are much less acrid the paler and drier they are; the stem is less acrid in proportion as it is more woody; so that during the period of

fructification the acridity and virtue of the plant reside in the root and blossom, or rather in the germ. The fibres of the root are acrid previous to the period of fructification, but afterwards they lose all their power.*

Physiological Effects.—From the acrid properties it may easily be supposed that this class of plants exerts a prejudicial influence on animal creation.

On Animals.—Krapf (op. cit.) states that five ounces of the juice of the R. acris killed a stout dog in twelve hours, when taken internally. Two drachms of the aqueous extract applied to a wound killed another in twelve hours, by inducing the usual inflammation. In another experiment with the Ranunculus sceleratus, the dog became anxious, howled, tossed about, bent double, was very restless at night; on being killed, the stomach was found contracted, inflamed in several parts, red, with erosions on the inner surface; the papillæ very prominent, tumefied, and pale; redness and contraction of the pylorus, which was hardly pervious.

Grazing cattle carefully avoid the plant of this genus; accordingly we find the flowers of the Ranunculi untouched, although the grass is cropped close all round them. Sometimes the nostrils and mouths of cattle are found much excoriated, which probably arises from their having taken some of these plants in their food.

In the *Pan. Succicus* some experiments upon these plants are detailed. It is there stated that horned cattle eat all the species

* Locality, season, and fructification, occasion a great difference in the quantity and strength of the acrid principle, especially, however, in the quality, to such a degree that several varieties of the Ranunculus, such as R. Thora, R. sceleratus, R. bulbosus, and R. acris, are very poisonous; others less so, and others entirely harmless. Others, as the R. repens, R. auricomus, and even the R. sceleratus, have been, after being boiled, eaten as vegetables. In dry soils, the R. sceleratus loses a good deal of its power, so that horses may eat it, as is the case in some parts of Scotland; whereas no animal, except goats and sheep, would eat it in the meadows. The property of the Ranunculus losing its acridity when dried, is the cause why all herbivorous animals can eat the different varieties in hay.

offered, except *R. auricomus*. Horses eat *R. flammula*, and reject the other species. Sheep and goats eat *R. acris ;* whilst the *R. repens* has a peculiar effect on sheep. Some curious symptoms were observed: several fell down as if struck by lightning; the eyes rolled; the breathing was hurried and aggravated. Some reeled and died, with their heads bent towards the left groin; the mucous membrane of the eyes was injected; the mouth dry; the abdomen was slightly distended; rumination ceased. Some of them raised themselves, reeled, and fell down again, bleating piteously. Most of the sheep were in a profound coma. Sulphuric ether in milk gave most relief; great weakness of the feet remained behind.

Mr. Sowerby (*Brit. Botan.*, vol. v.) has these remarks on the action of Ranunculus bulbosus on cattle: "The whole plant is acrid, and not a good food, if eaten at all unmixed by cattle; but as nature does nothing in vain, and has abundant resources, it is not improbable that such plants, mixed with less pungent herbage, may act as a useful stimulus to these animals, like salt does to others."

R. arvensis is very injurious to sheep. A notable instance occurred in Piedmont, in 1786, where a number of these animals died, as it was at first supposed, of an epidemical disease; but subsequent examination discovered that this destruction was owing to the R. arvensis, as related by M. Brugnon (*Mém. de l'Acad. Roy. des Sciences, Ann.* 1788-89, *à Turin*). The herb grows luxuriantly in Piedmont, and the sheep feed with much eagerness upon it. The effects here mentioned were not immediate, but progressive, and it was principally owing to the roots of the plants; since, by experiments purposely made on dogs, these animals were almost instantly killed by them. The chief symptom was violent colic, ending in gangrene and death. On dissection of the sheep, the four concoctive organs were found affected with erysipelatous and gangrenous spots, but more particularly the obomasum, which he found much more

deeply ulcerated than the others. The mischief had extended into the smaller intestines.

The avidity with which sheep, horses, and cows eat the *R. arvensis* is, as M. Brugnon justly observes, an exception to the commonly-received maxim, that herbivorous animals are by instinct led to reject whatever is noxious.

On Man.—Ranunculus bulbosus has a peculiar escharotic property, and if applied to the skin soon causes a blister; and, according to Murray (*App. Med.*, vol. iii. p. 87), will produce ill-conditioned ulcers. He also states that a slice of the fresh root of the R. bulbosus placed in contact with the inside of the finger, brought on a sense of pain in two minutes; when taken off, the skin was found without redness, and the sense of heat and itching ceased; in two hours, however, it returned again, and in ten hours a full serous blister was raised; this was followed by a bad ulcer, and difficult to heal.

In four persons who had eaten the root of the Ranunculus bulbosus, boiled in chicken-broth, the following symptoms manifested themselves: violent burning in the region of the cardiac orifice of the stomach, with great anxiety about the heart; pressure at the pit of the stomach, with painful soreness at the stomach when touched.

A child which was cured of fever, with subsequent dropsy and hydrocele, by the application of the Ranunculus bulbosus to the wrist-joint, was attacked with an ulcer which went to the ligamentum annulare and flexor tendons.

A soldier lost one of his thumbs, and another had violent inflammation of the arm, with fever and delirium, which was followed by gangrene of the arm, after the application of the juice of the R. bulbosus, to procure their discharge.

Inflammation of the arm, with violent tingling in the skin, has been produced from the practice of placing the leaves and flowers on warts which have been cut and made to bleed.

Vesicles appeared on the fingers and hands after being touched by the juice of this plant. Rhus and Bryonia were the best

antidotes. Sulphur and Staphysagria made the affection worse. Drs. Schweikert and Hauboldt, guided by these facts, have healed herpes on the fingers and in the palm of the hand, by giving the R. bulbosus internally, and causing at the same time the herpes to be washed externally with a drop of the tincture diluted in water.

Violent smarting in the eyes, nose, and fauces, with great lachrymation and discharge of mucus from the nose (the fauces being extremely painful), came on from preparing the juice, the acrid vapour touching the parts; but these are not merely local symptoms, all of them appear from the internal use of the juice, after it had been so much diluted with water that the acridity of the juice could neither be perceived by the taste nor by the tact externally, hence the cause was purely dynamic; even many of those symptoms which are considered as sympathetic, for instance, the symptoms of the brain, temperament, eyes, chest, where no local contact had taken place, came on much sooner than the symptoms of the pharynx, the œsophagus, and stomach, organs which were immediately in apposition with the drug. Except the blisters and redness produced by many locally-applied drugs (for instance, cantharides, mezereum, etc.), it may be said, perhaps, that there exists no local symptom of any drug which cannot be realized by its internal use, although much more slowly; whereas it is very often the case that drugs which are applied locally, cause a number of internal and external phenomena in distant organs and parts of the body.

According to Krapf, Pleuk, and Orfila, the deleterious action (hence also the curative action) of R. bulbosus depends upon local inflammation, or sympathetic affection of the nervous system (*Stapf, Add. to Mat. Med. Pur.*)

Violent epilepsy has been recorded as having been induced by this plant, in paroxysms, in a student; also in a sailor, who was first seized with headache from inhaling the smoke of the plant, which was burnt in a censer with other herbs; after-

wards, after thrusting his nose several times in the censer, he was attacked with epilepsy for the first time in his life; it returned in two weeks, passed into cachexia, nodous gout, headache, and ended with death (*Idem*).

In the proving of the Ranunculus bulbosus, the following are the chief symptoms which appeared. Ill humour; disposed to quarrel; censorious; loss of power of thinking; vertigo; dizziness in the head, making it difficult to think; sensation as if the head was too large and distended. Headache, aggravated by lying, relieved by walking and standing; acute stitches in the left temple; pressing pain in the forehead, from within outward. Violent pressing pain in the eyeballs, at times in one, at times in the other. Obstruction and soreness of the nose. Scraping, burning sensation in the region of the right portion of the velum palati; white, coated tongue.

Gastric Symptoms.—Frequent eructations; nausea in the afternoon, with headache; pain in both hypochondria; pain in the morning as if bruised, or as if one had been lying in a wrong position; painful soreness under the short ribs of the left side, especially when moving the trunk; pressure deep in the region of the liver after dinner; a pinching pain below the umbilicus; and violent stitches from the left lumbar region through the abdomen, especially below the umbilicus, and towards the left groin. The whole day he feels a subdued pinching colic, sometimes alternating with pains in the chest; when walking he feels constantly a subdued colic in the whole tract of the intestines; they are painful when pressing upon the integuments of the abdomen. Oppression of the chest, with impossibility to prevent crying in the evening; oppressive sensation in the chest as after deep chagrin; has to take a deep breath frequently; pain in the chest, and restless nights, continuing for weeks; violent pain in the chest the whole forenoon; pain in the chest on awaking; a feeling of a sort of rheumatic pain, and as from subcutaneous ulceration; constant pain in the chest in the

afternoon, mostly on the left side; violent fine stitches in the middle of the chest during inspiration; violent stitching pains in the whole of the right chest; pressure and tightness across the lower part of the chest, increased by moving, stooping, or taking an inspiration; pressing pain in the outer part of the chest. Pain in back early in the morning on awaking; jerking pain in the right upper fore-arm; dull itching in the hands (*vide* effect of leaves, etc., recorded above); pulsative stitches in left heel when standing, in the afternoon. Falls asleep late in the evening, and wakes several times at night, not from any pain, but because he is not sleepy; disturbed sleep at night. Herpes over the whole body, not observed in the proving, but existing and caused by the medicine. The whole body feels bruised. Great weakness in the lower limbs, in the forenoon, when walking.

Characteristic Peculiarities.—The pains, particularly in the trunk and limbs, are excited or aggravated by *contact* motion, stretching, changing the position of the body. Many pains arise from a change of the external temperature, from cold to warm, or *vice versâ*, or morning, or evening, or after dinner.

Ranunculus sceleratus.—Krapf (op. cit.) states, that a small portion of a leaf or flower of R. sceleratus, or two drops of the juice, excited acute pain in the stomach, and a sense of inflammation of the throat; when he chewed the thickest and most succulent leaves, the salivary glands were strongly stimulated; his tongue was excoriated and cracked; his teeth smarted, and his cornea became tender and bloody (*Orf. Tox. Gén.*, vol. i. p. 754).

A man, at Bevay, in the north of France, after swallowing by mistake a glassful of the juice, which had been kept for some time as a remedy for vermin on the head, was seized in four hours with violent vomiting and colic, and expired in two days (*Jour. de Chim. Méd.*, 1836, p. 273).

The following are the chief symptoms which manifested

themselves in the proving of the Ranunculus sceleratus. Long-continued, dull, aching, gnawing pain in the left vertex, seated in one point; slight dragging pain, and feeling of coldness above the right eyebrow, down the cheeks, as far as the corners of the mouth; tremulous sensation around the corners of the mouth and lower lip, preceding the vomiting, but without any inclination to vomit; slight smarting in the corners of the eyes; painful pressure in the eyeballs; pressure in the eyeballs periodically; pain in the eyeballs on moving them quickly. Otalgia of the right ear, with aching pain iu the head, and drawing in all the teeth; painful drawing in the upper right molar teeth; stinging drawing in all the teeth; drawing and jerking in all the teeth. Frequent empty eructations; frequent eructations, lasting, of the ingesta, after a meal. Stitching in the tonsils; swelling of the tonsils, with shooting stitches in the same. Pressure and sensation of fulness in the pit of the stomach, increased by external pressure; screwing pressure behind the umbilicus; sensation as if a plug were lodged behind the umbilicus. Stitches in the hepatic region; continual pressure as of a dull instrument below the right false ribs, increased by a deep inspiration; sudden violent jerks in the lumbar region, during a walk in the open air, arresting the breathing. The whole chest seems weak and bruised; painful stitching in the right chest, not increased by inspiration; stitches in the region of the heart; great sensitiveness of the integuments of the chest; external painfulness of the sternum. Continued gnawing pain in the palm of the left hand; sudden stitches in the fore-part of the great toe, as if a needle were thrust in deep; boring and gnawing in the right great toe.

General Symptoms.—Itching, biting, boring, tingling, gnawing in various parts of the body, especially towards evening; half slumber after midnight; frightful, anxious dreams, about dead bodies, etc.; constant tossing about in bed. After mid-

night, awaking with heat and violent thirst. Pulse full and accelerated; afterwards sweat over the whole body. Chilliness while eating.

The following remarks by the prover of *R. sceleratus* will not be found uninteresting.

"I have learned a good deal from the proving of the R. sceleratus. I have learned, in the first place, that there are no real local remedies for all the symptoms which arise from any local irritation of the skin, or from chewing the plant, or expressing its juice, such as burning in the tip of the tongue, smarting in the region of the palate, in the pharynx, nose, and most violently in the eyes, painful pressure in the eyeballs, redness of the vessels of the conjunctiva, profuse lachrymation, tension in the pit of the stomach, itching and burning of the fingers, sensation of nausea. All these symptoms arise also from the internal use. This accounts for the cure of the itch and chronic ulcers by external application. From my provings, I have also learned why no greater injury is done by the excessive and oft-repeated doses of allopathic physicians, than common sense would seem authorized to apprehend. On the 16th and 17th October I took two drops of the mother-tincture before breakfast; on the 20th, three; on the 25th, four; on 5th November, four; on the 10th, six; on the 29th December, twelve; and on 4th January, fifteen drops. The greatest number of symptoms, and the most disagreeable, occurred after the small doses; the twelve and fifteen drops which were taken after the small dose, affected me but very little. Hence I drew this conclusion: one *triborium*, and a second and a third having been swallowed and disposed of by the organism, the subsequent doses are much more innocent, and give much less trouble, for the system becomes used to the medicine."

Of the other Ranunculi. *R. flammula* produces rapid vomiting. Dr. Withering advises this plant as the best emetic in cases of poisoning. Some years ago a man travelled through several

parts of England administering vomits, which operated almost the instant they were swallowed; the juice of R. flammula, in distilled water, proved his medicine.

Ranunculus acris.—Curtis (*London Bot.*, fasc. i.) says that even plucking this plant, and carrying it some distance, has produced considerable inflammation in the palm of the hand. Applied to the temples, it produces headache, intolerable heat, and fainting. Applied to the joints, soreness of the joints, and obstinate ulcers.

Medical Uses (Homœopathic).—Stapf says that the *R. bulbosus*, from the symptoms it produces, must be useful in affections of the eyes, nose, chest, abdomen, liver, and skin. It has also been used with advantage in epileptic convulsions, scrofulous affections, indurations, jaundice, vesicular eruptions, flaccid phagedæna, ulcers, spots over the entire body, and in cases of dyspepsia and rheumatism.

R. bulbosus has a very long action, the dynamic effects lasting upwards of five weeks, and the external symptoms (which make their appearance after the dynamic symptoms), the cutaneous eruptions, herpes, and ulcers, continuing for many months It is therefore especially adapted to chronic maladies, and it may, without stretch of imagination, be placed among the antipsorics, considering its specific action on the skin.

Ranunculus sceleratus.—The symptoms of R. sceleratus, as well as R. bulbosus, seem to correspond to various chronic affections of the chest and liver, to acute and chronic gout, malignant ulcers on the extremities, and to fever and ague.

Antidotes.—Smelling of Camphor, and, in some cases, drinking large quantities of cold water (iced water would be better). Slimy and oily substances have proved most successful in antidoting the action of Ranunculus. The Rumex acetosa and unripe currants have relieved the caustic acidity of Ranunculus. The best homœopathic remedies are Bryonia and Rhus Tox. Pulsatilla will likewise prove a most useful

homœopathic antidote. Mineral acids, Vinegar, Wine, Alcohol, Honey, and Sugar, increase the effects of Ranunculus. Franz says that Wine increases the headache which is produced by Ranunculus.

L.

RHEUM PALMATUM.

Palmated Rhubarb.

Synonyms.—Rheum palmatum, *Linn.*, *Spec. Plant.*, p. 531; *Willd.*, p. 488. Rhabarbarum, *Bauh. Hist.*, vol. ii. p. 989; *Lob. Ic.*, vol. i. p. 289. Rhabarbarum et ponticum genuina officinarum, *Park. Theat.*, p. 156.

Foreign Names.—*Fr.:* Rhubarbe. *Ital.:* Rabarbaro, Reobarbaro. *Span.:* Ruibarbo. *Germ.:* Rhabarber, Aechte Rhabarber. *Chin:* Tu Hioang. *Russ.:* Rhewen. *Arab.:* Rawend.

Nat. Order, Oleraceæ, *Linn.*; Polygoneæ, *Juss.*, *De Cand.*—Enneandria, Trigynia.

Gen. Char.—*Calyx* petaloid, six-parted, withering. *Stamens* about nine, inserted into the base of the calyx. *Styles* three, reflexed. *Stigmas* peltate, entire. *Achenium* three-cornered, winged with the withered calyx at the base. *Embryo* in the centre of the albumen (*Lindley*).

Spec. Char.—*Leaves* palmate, pointed, roughish, the sinus dilated at the base. *Stalks* obsoletely furrowed above, rounded at the edge.

History.—Under the name of Pα, Dioscorides described what was formerly supposed to be the officinal Rhubarb; it is now, however, generally understood that the plant described by the ancient physicians is the Rheum Rhaponticum, the common Rhubarb of the gardens. Paulus Ægineta, under the name Pηον, describes the same species, but which Matthiolus and Dodonæus considered was the purgative Rhubarb. Sprengel states that Isodorus is the first author who applied the name Rheum barbarum to the True Rhubarb. It seems that the Arabian physicians were the first that were acquainted with the

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Fig. 1. A flower, somewhat magnified. 2. The fruit.

Rheum palmatum.

H Sowerby, lith

J Reeve, imp.

True Rhubarb; and Mesne describes three species, viz., Indianum, Barbarum, and Turcicum, and he recommends it in dropsy, obstructions of the spleen, and jaundice. He appears not to have been acquainted with the Rhaponticum; and Avicenna and Serapion seem not to have been acquainted with the others. Ebn Baithar, the famous Arabian physician, has written the most copious and instructive dissertation on the subject. He gives an account of four distinct species, and remarks that the older physicians knew nothing of the purgative kinds of Rhubarb, until they were discovered near to his time. He recommends it in jaundice, dropsy, marasmus connected with obstructions, and remarks that it is most useful in diarrhœa, with Indian spikenard.

Description.—Rheum palmatum, known to gardeners as the True Turkey Rhubarb * is a perennial plant. *Leaves* roundish-cordate, half palmate, the lobes pinnatified, acuminate, deep dull green, not wavy, but uneven, and very much wrinkled on the upper side, hardly scabrous at the edge, minutely downy on the under side; sinus completely closed, the lobes of the leaf standing forwards beyond it. *Petiole* pale green, marked with short purple lines, terete, obscurely channelled quite at the other end. *Flowering stems* taller than those of any other species (*Lindley*).

Professor Guibourt (*Hist. des Drogues*) observes that, out of the roots of the *R. palmatum*, *undulatum*, *compactum*, and *rhaponticum*, those of the first species only possess the exact odour and taste of the China Rhubarb.

Geographical Distribution.—The Mongolian Empire, China. East Indies. (?) Himalayas. (?) The exact locality from whence the True Rhubarb comes is still a matter of doubt. It

* This species is extensively cultivated at Banbury, in Oxfordshire, for the supply of English Rhubarb to the London market. It is the kind frequently observed in the show-bottles of druggists' windows, and was formerly sold in Cheapside and the Poultry for "Turkey Rhubarb," by persons dressed up as Turks (*Pereira*).

is probable that the species of Rheum from which the officinal Rhubarb is made has never been described. "The genus Rheum, to which Rhubarb is unanimously referred by botanists and pharmacologists, comprises numerous species, very widely diffused over the Asiatic continent; for it is met with as far west as the Caspian shores, as far east as within the Chinese wall, south on the Himalaya mountains which bound Upper India, and north along the Altai range, and towards Lake Baikal. The extent of country from which Rhubarb of one kind or another is actually collected, though somewhat more limited than this, nevertheless reaches from Ludak, in 77½° east longitude, to the Chinese province of Shen-si, 29° further east; and from the Sue-chan mountains, in north latitude 26°, upon the south-western confines of China Proper, nearly to the frontier of Siberia, 24° northward. Further it would appear, from recent inquiries, that the best qualities of commercial Rhubarb are, in all probability, produced five or six hundred miles north of the British territories of Assam, in the very heart of Thibet" (*Christison, Disp.*, p. 780). "My travels," says Sievers, "as well as acquaintance with the Bucharians, have satisfied me that as yet nobody, that is, no scientific person, has seen the True Rhubarb plant; all that is said of it by the Jesuits is miserable, confused stuff; all the seeds procured under the name of True Rhubarb are false; all the plantations, from those of the Knight Murray down to the flower-pot of a private individual, will never yield True Rhubarb. Until further determination, I hereby declare all the descriptions in all the Materia Medicas to be incorrect" (*Duncan, Suppl. to Edin. New Disp.*, p. 89).

Parts used in Medicine, and Mode of Preparation.—The Root from the different species. That which is called the China Rhubarb is used for homœopathic purposes. According to Pereira (op. cit.), there are six kinds of Rhubarb of commerce, viz., Russian, Dutch trimmed, Chinese, Himalayan, English, and French.

Russian or Bucharian Rhubarb is imported from St. Petersburgh. It is said formerly to have been brought by way of Natolia, hence the name of Turkey Rhubarb, which it ordinarily bears in the shops. It is imported in boxes or cases covered with a pitched cloth. The shapes of the pieces are various, being angular, rounded, and irregular, most of them perforated with holes; externally they are covered with a bright yellow powder, and beneath this the surface has a reddish-white tint.

Dutch-trimmed or Batavian Rhubarb.—It is the finest quality of the Chinese Rhubarbs. It is imported from Canton and Singapore Pereira says that it is probably Bucharian Rhubarb, of less pure quality, sent by way of Canton, and which in consequence has been usually confounded by pharmacological writers with Chinese Rhubarb. In shape, size, and general appearance it resembles the Russian kind. In the drug trade this Rhubarb is said to be trimmed.

China or East Indian Rhubarb is imported either directly from Canton, or indirectly by Singapore and other parts of the East Indies, and is probably the produce of China. It is imported in chests. The cortical portion of the root appears to have been scraped rather than sliced off, and hence the surface is not so angular. The pieces are generally perforated with holes, in many of which we find portions of the cords by which the pieces were suspended. The surface is more of a yellowish-brown than reddish-white colour, and has coarser fibres than Russian Rhubarb. On the finer pieces, we notice numerous starlike spots, or depressions. The odour of this species is much less powerful than that of Russian Rhubarb, and is somewhat less aromatic.

Himalayan Rhubarb.—This is the produce probably of Rheum Emodi; it comes into India, according to Dr. Royle, through Kalsee, Almora, and Butan; it is less valuable than the China Rhubarb, and has a very bitter, astringent taste.

English Rhubarb is made at Banbury, probably from the Rheum palmatum, and is generally found as dressed English

Rhubarb, in angular pieces, like the Turkey Rhubarb and the common stick Rhubarb.

French Rhubarb.—This is procured from the Rheum Rhaponticum, undulatum, and compactum. These are cultivated at Rheumpol, a place not far from Lorient, in the department of Morbihan.

According to Brande, the analysis of Chinese Rhubarb gives pure rhabarberic acid; impure ditto; gallic acid, with some rhabarberic acid; tannin; colouring extractive; uncrystallizable sugar, with tannin; starch and pectine acid; gummy extractive, taken up by caustic potash; pectic acid; malate and gallate of lime; oxalate of lime; sulphate of potash and chloride of potassium; phosphate of lime, with oxide of iron; silica; woody fibre; water.

Rhubarb is very liable to adulterations. The fine qualities of the Eastern Rhubarb are easily known, when in pieces, by their strong aroma, their powerful bitterness and grittiness between the teeth, and their freedom from brown specks externally and internally. They are often adulterated with the inferior sort of home growth; these are easily detected while the drug is in mass, by their weaker aroma and want of grittiness when chewed; and if their surface has been rubbed over with turmeric to heighten their yellow colour, this will be discovered by boracic acid, turning the yellow to brown; the true yellow colour of Rhubarb is not thus altered (*Christison, op. cit.*)

Physiological Effects.—*On Animals.* On the Lolipedes Rhubarb acts as a tonic, confining its action principally to the stomach, whose digestive power it augments. On the Carnivora it operates, in doses of half a drachm, in the same way; but in doses of several drachms, as a purgative. On the larger Herbivora it may be given to the extent of several ounces, without causing purgation. Tiedemann and Gmelin detected it by its yellow colour in the serum of the blood of the mesenteric, splenic and portal veins in dogs, to which Rhubarb had been

administered by the mouth. They failed to recognise it in the chyle (*Pereira*).

On Man.—In small doses (as from four to eight grains) it acts as an astringent tonic, its operation being principally or wholly confined to the digestive organs. In large doses (from a scruple to a drachm) it operates slowly and mildly as a purgative, sometimes causing slight griping. It never inflames the mucous membrane of the alimentary canal, as jalap, scammony, colocynth, and other drastic purgatives are capable of doing. The constipation which follows its cathartic effect has been ascribed to the operation of its astringent matter. In febrile complaints and inflammatory diseases, it sometimes accelerates the pulse, and raises the temperature of the body, whence the impropriety of its use in these cases. The milk of nurses who have taken it acquires a purgative property.

Medical Uses (Homœopathic).—Hahnemann remarks that this medicine is useful in disorders of the primæ viæ, especially in children. Rhubarb has only been employed for derangements of the intestinal canal in children and full-grown persons, arising from improper alimentation, generally accompanied by excessive acidity in the primæ viæ, cutting colic, disturbance of the night's rest by starting, moaning, weeping, slight convulsions, etc. Nightly complaints, particularly of children, with moaning, peevishness, tossing about, crying, etc.; all these symptoms being occasioned by a disordered condition of the bowels. Nightly crying and tossing about of infants, probably owing to colic; diarrhœas of children, with colic, etc. (*Noack and Trinks, in Amer. Trans. of Jahr's Manual*).

Antidotes.—Camphor. Coffea. Chamomilla.

LI.

RHUS.

RHUS TOXICODENDRON.*

Trailing Sumach, Pubescent Poison Oak, Poison Ivy.

Synonyms.—Rhus radicans, *Willd.*, *Sp. Pl.*, vol. i. p. 1481; *Hort. Kew.*, vol. ii. p. 163; *Koln, Trav.*, vol. vi. p. 67. Hedera trifolia virginensis, *Park. Theat.*, 6795. Arbor trifolia venenata virginiana folio hirsuto, *Raii Hist.*, 795. Edera trifolia canadensis, *Cornut. Canad.*, 96, t. 97. Vitis canadensis, *Manting, Phyt.*, p. 239, t. 60. Toxicodendron triphyllum glabrum, *Duham. Arb.*, vol. ii. p. 341, t. 98. Rhus toxicodendron, *Linn. Sp. Pl.*, 381; *Willd.*, vol. i. p. 1481; *Hort. Kew.*, vol. ii. p. 82; *Pursh, Fl. Amer.; Mich., Bot. An.; Stokes, Bot. Mat. Med.*, vol. ii. p. 160; *Bot. Mag.*, vol. xliii. t. 1806.

Foreign Names.—*Fr.:* Toxicodendron, Herbe à la Puce, Sumac vénéneux. *Ital.:* Rus Tossicodendro. *Germ.:* Giftsumach. *Russ.:* Geltnik iadovitoi. *Dut.:* Vergiftboom. *Swed.:* Förgiftida trädt.

Nat. Order, Dumosæ, *Linn.*; Terebintaceæ, *Juss.*; Terebinthaceæ, *De Cand.*—Pentandria, Trigynia.

Spec Char.— *Calyx* small, five-partite, persistent. *Petals* five, ovate, spreading. *Stamens* five, all fertile in the male and hermaphrodite flowers. *Ovary* one, somewhat globose, one-celled. *Styles* short, three, or *stigmas* three, sessile. *Drupe* almost juiceless, one-celled; nut bony, perhaps by abortion, one-seeded, and sometimes two or three-seeded. *Seed* exalbuminous, invested by the funiculus arising from the base of the nut. *Cotyledons* foliaceous. *Radicle* incumbent on the upper edge of the cotyledons (*De Candolle*).

Spec. Char.—Rooting. *Leaves* ternate. *Leaflets* oval, entire, or sinuate crenate. *Racemes* on the branches, and axillary, sessile, dicœcious. Var. *radicans*. *Stem* climbing, and rooting. *Leaflets* broad, entire, or with scattered teeth.

Fig. 1. A male stem, with the flowers. 2. The corolla and flower. 3. Cluster of the berries from the female plant.

* Although Linnæus, De Candolle, and Nuttall have made *Rhus radicans* a different species from *Rhus toxicodendron*, and have founded the distinction

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Rhus Toxicodendron.

HISTORY.—This plant was first described by Cornutus (*Plant. Canad. Hist.*), in 1635, but not brought into practical use

chiefly on the character of the leaves, yet Michaud, Pursh, Eaton, and later botanists, who have had opportunities of carefully observing these plants, are of opinion that they are mere varieties of the same species. The *R. toxicodendron* has been described as a low self-supporting shrub, only two to three feet in height, with the leaflets toothed or lobed at the margin, and pubescent; while the *R. radicans* has a stem from five to forty feet in height or rather in length (and even infinitely longer than this), with the leaflets entire at their margins; but the toothed leaflets have been observed equally on the *R. radicans* as on *R. toxicodendron*, being chiefly the radical leaves; while the trailing character of the stem arises from the locality in which it is found. *Rhus radicans* inhabits rocks and open places, while the *R. toxicodendron* is generally found amidst high forest trees. Professor Bigelow states, "Among the plants which grow abundantly round Boston, I have frequently observed individual shoots from the same stock having the character of both varieties." It is also probable that the medicinal powers are increased or lessened by the same cause, for it is natural to suppose that the virtues must be more marked in those plants that are able to increase and thrive in power and strength, than in those which are stunted and weakly.

The following note is taken from the American edition of Jahr's Manual:—"Rhus radicans and Rhus toxicodendron are considered by some botanists as varieties of the same species, but by a majority of them as distinct species. The trunk of the radicans is from five to forty feet in height, and is furnished with an immense number of dark reddish-brown radicles or root-like fibres, which enable it to adhere to trees and other objects, and be ths supported like a kind of vine. The toxicodendron is a low, self-supporting shrub, only two or three feet in height. When the radicans grows where it meets with no object suitable to its support, its height is only four, five, or six feet, and its branches frequently recumbent. In a dry soil, the branches may not be recumbent, and the stunted radicans, with few or no radicles, be mistaken for a toxicodendron, from which, however, it is even then distinguished by the crookedness or obliquity of its trunk. As the leaves of both plants are sometimes trifoliate, the toxicodendron *always* and the radicans rarely on the same vine, though generally quinquefoliate, with leaflets decidedly serrate, toothed, or lobed, and smooth and glabrous on both surfaces, as well as smaller, terminal one the largest, the two next the footstalk the smallest when fine; whilst those of the toxicodendron are frequently entire at their margins, and always sparingly toothed or lobed, and often on one side only, and these not so fine as the preceding species, pubescent on both surfaces, but the inferior the most so, and leaflets larger. Until the precise relation which the radicans and toxicodendron sustain to each other in their medical properties has been rigorously determined, no specimens of them should be collected, either for pathogenetic or

until 1798, when Dufrenoy, a physician at Valenciennes, had brought under his notice a young man who had been cured of an herpetic eruption (*dartre*) on his wrist, of six years' standing, by being accidentally poisoned by this plant. He reports seven cases of obstinate herpetic eruptions cured by this plant. He also gave it in palsy, and cured some of them. Dr. Alderson, of Hull, in his essay on Rhus toxicodendron, gives several cases of recovery from paralysis from the use of the dried leaves, in doses from half a grain to a grain three times a day, and he says that the first feeling of amendment was a sensation of tingling and twitching in the affected limb. Dr. Givesius (*Bulletin des Sciences Médicales*, 1825) reports cures of paralysis by this drug.

It has also been employed in rheumatism, obstinate eruptive diseases, in some cases of amaurosis, and in other nervous affections of the eyes; but it is now almost entirely abandoned in allopathic medicine.

Description.—Rhus toxicodendron flowers in June and July. The *root* sends up many stems, which divide into slender woody branches, and are covered with a brown bark. These *stems* seldom grow erect, but trail along the ground, and when they meet with support will ascend a wall, or climb like

curative purposes, except from wild and almost full-grown plants, and from those which possess some of the peculiarities in a high degree, not only to prevent the possibility of confounding them, but to determine the extreme points of difference in their medical properties. For example, it would be desirable to select a toxicodendron at least twelve or fifteen years of age and under three feet in height, having a trunk perfectly straight, erect, and free from rootlets, and bark generally smooth and spotted, with leaves pubescent beneath. The writer deems it proper to acknowledge that his description of the toxicodendron has been taken chiefly from books, and confined mainly to those points on which there is a general agreement among the numerous authorities consulted. The radicans leaves, which he collected for trial, were from a female plant growing spontaneously in a fertile and somewhat humid soil, and in a situation exposed to the sun. It had a trunk about twenty feet in height, and two inches in diameter; numerous radicles, and leaves serrate and smooth on both surfaces. It was in flower at the time, June, 1846."

ivy to the tops of the loftiest trees. The *leaves* are placed alternately, supported on long petioles, and are composed of three dark green, shining leaflets, about three inches long, and one and a half broad. The *leaflets* are of an ovate or rhomboidal form, pointed, strongly veined, smooth on the upper surface, but always more or less downy beneath, at least about the ribs, and sometimes quite covered with down at the back; their margin entire. The *radical leaves*, especially in the downy variety, are often cut and lobed; the two lateral leaflets are considerably the smallest of the three, and nearly sessile. The *flowers* are produced in simple axillary racemes, on short peduncles, greenish-white, and diœcious. The *calyx* is divided into five deep, erect, permanent segments. The *petals* are five, ovate, pointed, and spreading. The *filaments* are five, shorter than the corolla, bearing small, roundish anthers. The *germen* is superior, roundish, supporting a very short style, with three small heart-shaped stigmas. *Fruit* a round drupe, about as large as a pea, sometimes pubescent, containing a single, roundish, bony seed (*Step. and Chur.*, *Med. Bot.*, and others).

Geographical Distribution.—North America, from Canada to Georgia.

Parts used in Medicine, and Mode of Preparation.—The Leaves, gathered in May. The juice is expressed, and treated similarly to that of all fresh plants.

Christison has this remark concerning the *R. toxicodendron*, which is worthy of attention. "The active part of this plant is extremely volatile, and the tincture of the fresh leaves or an extract of the same ought to be prepared *in vacuo*." It is also most important to be remembered that the leaves of this plant should always be gathered at night, and never exposed to the rays of the sun. Exposure to light and sun causes them to become almost entirely innocuous.

Physiological Effects.—*On Animals.* Orfila (op. cit.) made six experiments on dogs with the extract of this plant.

In the first two no effect was produced; in the others it exerted a stupifying action on the nervous system, with local irritation and more or less intense inflammation, with vertigo, and dilated pupils. After death, the blood was found fluid, of a very dark purple colour, in the cavities of the heart, and the lungs red and very crepitant. Lavini (*Jour. de Chimie Médicale, Juin*, 1825) made the same experiments on guinea-pigs and birds, with the same effect. Fontana (*Traité sur le Vén. de la Vipère*, tom. ii. p. 160, 1781) gave the juice of the leaves of the Rhus toxicodendron, and also applied it externally to the cellular tissue of rabbits, guinea-pigs, and pigeons, without it producing any effect.

On Man.—Fontana (op. cit.) states that, having touched the leaves of the R. toxicodendron at different times and at intervals of several days, in four to six days after the eyelids and the extremities of the ears and many other parts of his face became tumefied, and appeared filled with an aqueous fluid. The intervals between the fingers became red and covered with little vesicles full of pellucid humour, and the epidermis fell off in small scales. Violent smarting of the skin continued for fifteen days, followed by insupportable itching for another fifteen days, and the pulse was inordinately agitated.

Lavini (op. cit.) applied the juice to the index-finger, and left it there for two minutes: in about an hour it produced two small dark-coloured spots. *Twenty-five days* afterwards he was suddenly seized with the following symptoms: great heat in the mouth and throat; rapid swelling of the left cheek, of the upper lip, and eyelids; the following night, swelling of both fore-arms to double their natural size, with coriaceous skin, insupportable itching, and violent heat. Four days after, there appeared on the hands and fore-arms pustules like those of the itch; some of them on bursting gave a limpid humour. On inoculating the fore-arm with this liquid, fresh pustules were produced. The places on the finger to which the juice had been applied presented two small tumours, about the size

of peas, which afterwards disappeared without opening them. After eight days the fore-arms were covered with squamous scales; the itching lasted several days. These symptoms at last disappeared after the application of ice.*

Horsfield (*Exp. Diss. on the Effects of Rhus radicans, etc.*) gives the following as the effects of the leaves of this plant:—

"A slight degree of itching or sensation of heat, which gradually increases, followed by redness or inflammation of the skin; in some very extensive; in others, confined to round circumscribed spots, or to longitudinal streaks. The inflamed parts become elevated and tumefied; small vesicles appear on the surface, containing a pellucid fluid, which gradually increase in size; the fluid soon becomes yellow, and after some time takes on the colour and consistence of pus. After the vesications are completely distended, they break, and some of the pus being discharged, by drying on the surface, forms a yellow incrustation, which gradually becomes brown. The itching and vesications which take place in the incipient state frequently disappear and return several times successively.

"The poison appears to have a peculiar capricious disposition to attack particular parts. In most cases the eyes are specifically affected; in some, the legs and thighs. A peculiar and distressing itching of the scrotum and præputium penis is one of the most general and characteristic symptoms of the disease. In quibusdam currit erectio penis, an fœminis labia pudendæ affectantur. Its peculiar tendency to affect the eyes is most strikingly observed in persons who by reading much become susceptible of the eruption; in most of these, if its progress is not stopped, blindness of a longer or shorter continuance is the certain consequence.

"It has been observed that the eruption, when it is re-excited,

* Van-Mons and others assert that the active principle of this plant is a hydrocarburetted gas, mixed with an acrid vapour, which acts most powerfully on certain organs.

has a peculiar tendency to attack those parts which were previously affected.

One of the most singular, at the same time one of the most universal, concomitants of the eruption, when it exists in a violent degree, is a sympathetic fever of the arterial system, and this occurs in a more or less degree in *every case.* The general symptoms, when this fever comes on, are quick frequent, full, and tense pulse; loss of appetite, and sickness at stomach; white tongue; burning of the palms of the hands and soles of the feet; headache, throbbing of the temporal arteries, and delirium. The eruption is not unfrequently succeeded by a great number of small phlegmons or boils, swelling of the tongue and ulceration of the mouth, swelling of the lymphatic glands."

A man labouring under fever was bled by a person who had handled the Rhus vernix; in forty-eight hours a red eruption and several serous vesicles appeared above the place where the vein had been opened; the eruption extended over both arms and the scrotum.

Two ounces of infusion of the leaves of R. radicans excited fever, increased the frequency and hardness of the pulse, and produced pain in the bowels and copious micturition; which effect seemed to be the result in many cases.

It is a general opinion in the western parts of Pennsylvania that R. radicans is an effectual remedy for the cure of phthisis pulmonalis.

"In the summer of '97, T. L., a boy of about twelve years of age, and possessing a very high degree of what is termed the melancholic temperament, was exposed to the action of Rhus radicans. He was attacked with the following symptoms: redness and swelling of the hands and face, followed by fever, unusual drowsiness, thirst, and great constipation; the eruption gradually extended over the whole body, much resembling the progress of inoculated small-pox; a swelling and very troublesome itchiness accompanied the eruption through the whole of

its course. From the foregoing statement, it would appear that the poison of the Rhus radicans acts in a manner somewhat similar to the contagion of small-pox when communicated to the system through the medium of inoculation. In the case of T. L., the hands and face, having been exposed naked to the poisonous effluvia, may be considered as the immediate seat of inoculation. These accordingly became first disordered by a topical eruption; in a short time fever supervened, and the eruption extended to other parts of the body in a manner analogous to the inoculation of small-pox" (*C. Caldwell, in Horsfield Exp. Diss. on Rhus vernix and R. radicans,* Philadel., 1798).*

The effects of Rhus vernix are thus described by Jacob Bigelow:—"The most formidable cases in persons subject to this poison usually commence within twenty-four hours after exposure; sometimes longer, more frequently shorter. The symptoms generally begin by itching and tumefaction in the hands and face, the swelling gradually spreading over different parts of the body like erysipelas. The inflamed parts become elevated, of a livid redness, with burning sensation; contain transparent fluid, which by degrees becomes yellow, and then assumes a purulent appearance. A discharge takes place from the vesicles, giving rise to a yellowish incrustation, which afterwards becomes brown. An insupportable itching and burning is felt; the parts become excessively swollen; not unfrequently the eyes are closed, and the face has a cadaverous appearance like that in malignant small-pox. It usually reaches its height the fourth to sixth day, after which the skin and incrustations begin to separate from the diseased parts, and the symptoms gradually subside; no scars or permanent traces usually remain. I never knew of an authentic case of its terminating fatally.

"In October, 1814, Dr. A. L. Pierson accompanied me to

* Analogous effects to Rhus radicans and vernix are produced by Nerium Oleander, Anacardium occidentale, Kalmia latifolia, Ruta graveolens, the berries of **Rhus glabrum, and the Hippomane mancinella.**

collect the juice of the R. vernix. He had always supposed himself exempt from liability to the poison. Day warm; the effluvium from the incisions we made in the trees was very powerful: we were exposed an hour, he less than myself. His own account of the symptoms is as follows: 'I felt no unpleasant effects for six or seven hours, when I perceived the backs of my hands were swollen and puffy, without pain or itching; my forehead and upper lip were soon in the same state. The following morning the tumefactions had increased, and other parts were infected; the backs of my hands and wrists began to show small watery vesicles. No applications were made till about noon; I then applied cloths dipped in lead-water to one hand and wrist, and a spirituous solution of corrosive muriate of mercury to the other. From this and subsequent trials I prefer lead The parts began to itch; the tumefaction increased; vesication began to take place on the swollen surface; small pustules formed and ran into each other, and at last some were as large as nutmegs. Next day my eyes were nearly closed, from the swelling of my forehead, eyebrows, and cheeks. The contents of the vesicles were perfectly limpid; inoculation from them to other parts had no effect, nor at any other stage. The next evening the inflammation was at its height; the burning and itching intolerable. The following day, pustules began to appear a little milky, and by night the inflammation was evidently on the decline. This day I applied an ointment of unguentum stramonii, etc. In a fortnight I was able to leave my chamber, and had a new cuticle from the roots of my hair on the forehead to my breast, and on the arms and inside the thighs. During first five days, the pulse was increased from ten to twenty strokes. The poison seemed to have a considerable effect in relieving me from dyspeptic symptoms, and also benefited a chronic inflammation of my eyes.'"

Ever since these plants have attracted the notice of naturalists and other persons, it has been observed that the susceptibility of receiving their poisonous influence exists in different con-

stitutions in very different degrees. While some are affected with a cutaneous eruption by their exhalation at the distance of twenty feet, others are not affected by freely handling them, or by applying their juice to the larynx and fauces.

"The following circumstances have considerable influence in varying in the same person the aptitude to the reception of poison :—

"*First.* A warm or cold climate; in southern, more active than northern. *Second.* Different seasons of the year. The Rhus vernix never affects me in the smallest degree, except on very hot days in summer. *Third.* Infancy or manhood; children more readily poisoned than adults. *Fourth.* Exposure before or after a meal. 'The plants more readily poison immediately after than *before a full meal*' (*Dr. Barton*). *Fifth.* The presence of moisture. Country people generally believe that the effluvia of plants when combined with moisture are most apt to produce the eruption. Several facts induce me to think this deserves credit.* *Sixth.* A state of increased perspiration at the time of exposure has a most powerful influence in favouring the eruption. Of this I have had several proofs: in collecting the juice of R. vernix, if in a state of high perspiration, I never failed to be affected more or less with the eruption; if my skin was perfectly dry, it had not the least effect upon me. Professor Kalm also remarked on the R. vernix, 'I found, however, that it could not exert its power on me when I was not perspiring.' Females, Dr. Barton says, are more easily affected than males."

Dr. J. Cooper inoculated himself with some of the juice of the Rhus toxicodendron. The next morning the eyelids itched, and were redder than usual; in the afternoon the face

* "That moisture does not destroy their poisonous qualities appears by the following quotation from Fontana on Poisons. Fontana, in order to examine the use of the leaves of the toxicodendron, as he knew that he was easily poisoned, observes, 'I caused them to be got ready by another person, but I touched a few of the leaves when *under water*. In four days my face and eyes swelled,' etc."

began to itch, and was red and swelled. The scrotum and prepuce the same; there were flushes of heat through the body; the pulse was very quick; and vesicles arose on the wrists, hands, feet, legs, and scrotum. In eight days the whole affection had disappeared.

Dr. D. S. Kemball experienced the following symptoms on gathering and preparing some of the R. toxicodendron:—Itching, burning (especially in the morning), and vesicular eruption on the hands and wrists, and about the eyes, with smarting and redness of the eyes, and photophobia, twenty-four hours after gathering, but commencing about eighteen hours previously. Headache through the eyes and temples, with dullness and sleepiness, thirty to thirty-six hours after, in the afternoon; secretion of urine more copious, and rather pale. Next day, itching, burning, and extension of the vesicular eruption around the eyes, upper lips, supercilia, mouth, and external orifice of the ears, and drowsiness and dullness of the spirits in the afternoon. Headache, slight photophobia, and obscured vision at times, as well as on the previous day. Itching of the scalp. Tongue more furred, and appetite not as good. After midnight, at the beginning of the third day, pain, colic, rumbling and griping in the bowels during repose, with sulphuretted eructations, and discharge of flatus. Two or three years ago, when similarly affected from preparing some, had loose serous evacuations in the morning for several days, in addition to the colic and cutting pains in the abdomen. Rheumatic pain in the lumbar region and through the hips. Bryonia relieved many of the symptoms, but not the eruption, which extended. Dr. Kemball remarks, that formerly he was able to handle and prepare this plant with impunity.

Medical Uses (Homœopathic).—*Hahnemann's observations* (op. cit.): "Rhus contains many very remarkable peculiarities, as an instance of which may be cited one effect produced by few other medicines, and by none in so great a degree. It is this: its most powerful action takes place when the body, or limb, is

in perfect repose. The reverse, that is, exasperation of the symptoms during motion, is more unusual.

"Rhus has great analogy with Bryonia, yet there is also considerable difference, for it is observable that symptoms much resembling Rhus, which have been caused by taking Bryonia, are increased by motion, and diminished by rest. Thus, by studying the symptoms of these two antagonistic medicines, we may conceive how one or other of them, according to the case, proved to be the best of all homœopathic remedies, during the course of that dreadful epidemic which in the summer of 1813 ravaged those countries which were the seat of war. No treatment of this typhus, founded on the common practice, availed in serious cases, and in those less severe, nature would have produced the cure, though slowly and with difficulty. Rhus, given alternately with Bryonia, succeeded in restoring great numbers, when all other means failed. Never did homœopathy experience a more signal triumph.

"Strong doses of Rhus continue to act for six weeks; weak ones for shorter periods, according to their dilution. For this reason, the aggravation of symptoms lasts a longer time than that of most other vegetable medicines, so that it is frequently twenty-four hours before amendment decidedly takes place. It is absolutely necessary to conform strictly to the rules of homœopathy in giving it. The bad effects of a wrong selection often give way to Bryonia, sometimes to Sulphur, Camphor, or crude Coffee, according to circumstances."

Clinical Observations.—Rheumatism and its consequences, characterised by the pains being worse at rest. Cephalalgia. Rheumatic headache. Intermittent fever. Vesicular erysipelas. Erysipelas bullosæ. Chronic pemphigus. Abdominal typhus. Tinea capitis. Humid herpes of the face. Typhoid pneumonia. Variola. Leucophlegmasia after scarlet fever. Sufferings from drinking cold water, and from external exposure to it. Paralysis. Sprains and affections of ligamentous tissues are amongst some of the chief diseases in which, with

other appropriate symptoms, Rhus will be found curative. Dr. Neidhard says, "The disease in which I have most frequently made use of Rhus is rheumatism, characterised by the following symptoms:—rigidity; paralytic weakness of the joints, with stinging pain along the tendons and muscles; swelling and redness on or near the joints. Rheumatism of the hip-joints and wrists seems to be most effectually controlled by its action. *The greatest rigidity and pain is experienced on first moving the joints after rest, and on waking up in the morning.* After the joints are moved for a while the pain is lessened."

ANTIDOTES.—Bryonia. Camphor. Coffea. Pulsatilla. Sulphur. Infusion of strong Coffee is the best antidote against large doses.

Pl. IV

Ruta Graveolens.

A.W. del. A.M. Trance, lith.

Tho.s Harrild, imp

LII.

RUTA GRAVEOLENS.

Common Rue.

Synonyms.—Ruta hortensis et montana, *Ger. Em.*, 1255. Ruta hortensis major, *Park. Theat.*, p. 132. Ruta hortensis latifolia, *Bauh.* Πιν., p. 336. Ruta, *Math. Vulg.*, vol. ii. p. 95. Ruta foliis duplicatis pinnatis lobulis ovatis, *n.* 1003; *Hall. Hist.*, vol. ii. Ruta graveolens, *Linn.*, *Spec. Plant.*; *Willd.*, vol. ii. p. 542; *Ball. Herb.*, t. 85; *Woodv.*, vol. ii. p. 483.

Foreign Names.—*Fr.:* Rue des Jardins. *Ital.:* Ruta. *Span.:* Ruda. *Port.:* Arruda. *Germ.:* Raute, Gartenraute. *Dut.:* Ruite, Wijnruit. *Swed.:* Winruta. *Dan.:* Rude. *Russ.:* Ruta. *Arab.:* Arooda. *Hind.:* Saturee.

Nat. Order, Multisiliquæ, *Linn.*; Rutaceæ, *Juss.*, *De Cand.* —Decandria, Monogynia.

Gen. Char.—*Calyx* persistent, four, rarely three or five-partite. *Petals* as many as the segments of the calyx, unguicolate, somewhat cochleate. *Stamens* twice as many as the petals. *Nectariferous pores*, at the base of the ovary, as many as the stamina. *Ovary* on a short, thick stalk. *Style* one. *Capsule* somewhat globose, divided into as many cells as there are petals. *Seeds* affixed by the internal angle. *Albumen* fleshy. *Embryo* curved. *Radicle* long. *Cotyledons* linear. Perennial or suffruticose fetid herbs, of a sea-green colour. *Leaves* alternate. *Flowers* corymbose, yellow, central, often five-cleft (*De Cand.*)

Spec. Char.—*Leaves* supra-decompound; lobes oblong, the terminal one obovate. *Petals* entire, or somewhat toothed (*De Cand.*)

History.—Rue is the Πηγανον of Hippocrates. Two varieties are mentioned, Π. αγριον and Π. οφεινον. It was highly esteemed by the ancients as a remedy for resisting contagions and poisons. Pythagoras considered Rue hurtful to the eyes. Pliny says that he was in error, because engravers and painters eat Rue with bread or cresses, to benefit the eyes when they are weak.

Dioscorides states "that twelve pennyweight of the seed drunke in wine is a counterpoison against deadly medicines, or the poison of wolfsbane, mushroom or toadstools, the biting of serpents, stinging of scorpions, bees, hornets, and wasps. That the weesell, when it is to fight with the serpent, she armeth herself by eating Rue, against the might of the serpent (*Gerarde*).

Rue was formerly called the Herb of Grace, from its being used in bunches by the priests to sprinkle holy water over the people.*

Alston (*Lect. on Mat. Med.*) remarks: "It is said to be hated by toads, wherefore it is planted amongst sage; hence 'Salvia cum rutâ faciunt tibi pocula tuta,' as some apply it. It inflames and ulcerates the skin like horse-radish; hence outwardly is a remarkable drawer, detergent, etc., and inwardly is commended for small-pox, measles, and lethargy. It is said to be a principal ingredient in King Mithridates' antidote, according to the receipt found with him when conquered by Pompey."

As a medicine it was formerly used as an anthelmintic. Boerhaave, in speaking of it, says, "What medicine can be

* Shakespeare makes mention of Rue in many of his works.

"Here did she drop a tear; here in this place
I'll set a bank of rue, sour herb of grace;
Rue even for ruth, here shortly shall be seen,
In the remembranee of a weeping queen."

Richard II.

"Reverend sirs,
For you there's rosemary and rue, these keep,
Seeming a favour all the winter long;
Grace and remembrance be to you both."

Winter's Tale.

"There's rue for you, and here's some for me; one may call it herb of grace o' Sundays."—*Hamlet.*

"She was the sweet marjoram of the salad, or rather the herb of grace."—*All's Well that Ends Well.*

more efficacious for promoting perspiration, for the cure of hysteric passion, and of epilepsics, and for expelling poison. Externally it has been used as an application to gangrenous ulcers. It has been employed in infantile convulsions, etc. It is a popular emmenagogue in hysterical cases.

Description.—Rue is a hardy evergreen under-shrub, flowering in June and September. The lower part of the *stem* is woody. The *leaves* are dotted, glaucous, and bluish-green. *Flowers* in umbellate racemes, of a pale yellowish colour. *Petals* four or five, fringed at the extremity, and attached by narrow claws. The first flower has usually ten stamina, the others eight. It is remarkable that the anthers move in turns to the pistillum and, after having shed their pollen, retire. The *germen* is oval, punctured with crucial furrows, and surmounted by a short, awl-shaped style and simple stigma. The *capsule* is gibbous, five-lobed, bursting elastically at the summit of each lobe, and containing numerous rough, angular, blackish seeds.

Geographical Distribution.—South of Europe. Naturalized in the gardens of this country.

Parts used in Medicine, and Mode of Preparation.—The Fresh Plant, before its flowers are developed. The juice is extracted, and treated like that of all fresh plants.

Physiological Effects.—*On Animals.* Orfila found that in three instances from six to eight ounces of the juice, or distilled water of Rue, would kill a small dog. In another instance, vomiting and vertigo (like a drunken man) came on, and the posterior extremities became very weak.

On Man.—Rue, if much handled, causes redness, swelling, and vesication of the skin. Buchner (*Toxikologie*, p. 265) gives the following case:—"After some very hot days in June, 1823, Roth, an apothecary of Aschaffenburg, cut down a considerable quantity of Rue whilst in full bloom, and separated the leaves from the stalk. The next morning both his hands were very red and hot, and on the third day appeared as if they had been exposed to hot aqueous vapour; they were besmeared

with oil. Towards evening vesication commenced, and was most copious at the points of the fingers. On the fourth day the parts were still much swollen, and between the blisters the skin had assumed a dark red or purplish hue. On the fifth and sixth days the swelling extended up the back part of the arms, as far as the elbow. Within four weeks the skin had gradually peeled off. His children, who had played with the Rue, suffered from swelling of the face and hands.

Helie (*London Med. Gaz.*, vol. xxiv. p. 171) gives the following as the effects of Rue acting as an acro-narcotic poison, in some cases where it had been taken to procure abortion. Pain in the epigastric region; violent and continued vomiting; inflammation and swelling of the tongue; salivation; colic; fever; thirst; disorder of the muscular system (manifested by tottering gait, and irregular and convulsive movements of the body and limbs); giddiness; confused vision; contracted pupil; delirium, or rather reverie; somnolency; and, after some days, miscarriage. During the stupor the pulse was feeble, very small, and slow (thirty beats in the minute in one case). There was great debility, faintness, and coldness of the skin. The ill effects lasted several days.

MEDICAL USES (HOMŒOPATHIC).—*Hahnemann's observations:* "Until the present time this powerful plant has been ignorantly used by common people as a domestic remedy. According to its pure symptoms, of which, unhappily, we know as yet but a few, we may discover that its uses are of real importance. Rosenstein says that it cannot be too highly esteemed in diseases of the eye, and amblyopia, caused by too much reading. Swediaur and Chomel agree with him. The action is efficacious only in cases strictly analogous to the symptoms it produces in healthy persons. A medicine that acts so evidently in accordance with the laws of homœopathy, far from increasing and aggravating the disease, as inexperienced persons imagine, cures it quickly and effectively, unless it arises from some miasmatic affection."

Clinical Observations.—Ruta has been employed in sufferings caused by mechanical injuries; chiefly contusions and injuries of the bones. Paralysis caused by external injuries. Sufferings caused by rainy and cold weather. Rheumatic affections, principally in the joints of the hands and feet. Amblyopia amaurotica, when caused by fine working. Spots on the cornea. Vermiculous affections of children, especially when accompanied with vomiting. Violent pain in the epigastric region after eating bread. Lithic acid deposits, and difficult micturition.

Antidote.—Camphor.

LIII.

SABINA.

(JUNIPERUS SABINA.)

Savin.

Synonyms.—Sabina, *Dod. Pempt.* 854; *Blackw.*, vol. vi. p. 214. Sabina folio cupressi, *Bauh.* Πιν., p. 487; *Raii Hist.*, 1415; *Duham. Arb.*, vol. ii. t. 62. Juniperus Sabina, *Linn. Sp. Pl.*, 1472; *Willd.*, vol. iv. 852; *Woodv.*, vol. vi. p. 259. Sabina folio Tamausii Dioscoridis, *Bauh.* Πιν., p. 487. Sabina sterilis, *Ger. Em.* Sabina vulgaris, *Park. Theat.*

Foreign Names.—*Fr.:* Sabine. *Ital.*, *Span.*, and *Port.:* Sabina. *Germ.:* Sadebaum, Sagebaum. *Dut.:* Sevenboom. *Swed.:* Säpven-boom. *Dan.:* Sevenbona. *Russ.:* Moggevelnich donskoi, Sabina.

Nat. Order, Coniferæ, *Linn.*, *Juss.*—Dicecia, Monodelphia.

Gen. Char.—Dicecious, rarely monœcious. *Males:* *Catkins* ovate, the scales verticillate, peltate, pedicillate. *Anthers* four to eight, unilocular. *Females:* *Catkins* globose, the three concave scales united. *Stigma* gaping. *Galbulus* composed of the united and fleshy scales, and containing three triquetrous, osseous seeds.

Spec. Char.—*Leaves* ovate, convex, densely imbricated, erect, decurrent, opposite; the oppositions pyxidate; a small bushy *shrub;* branches closely invested by the very small glandular leaves. *Galbulus* round, purple, somewhat smaller than that of Juniper communis.

History.—Savin has been employed in medicine since the time of the Greek physicians. It is the Βραθυ of Dioscorides, who says, "Cum vino potu sanguinem per urinas educunt et partus expellunt, id ipsum tum appositu, tum etiam suffitu præstant."

Pliny (op. cit.) says: "Savine, the hearbe called by the Greeks *Brathy*. It driveth and keepeth down all swellings, impostumes; it represseth all those ulcers which be corrosive and cauterous. Made in a liniament it healeth St. Anthony's fire

Sabina.

(Juniperus Sabina.)

M.D. del. H. Sowerby, lith.

F. Reeve, imp.

and carbuncles. Drunke with honey and wine, it cureth the jaundice. It is said that the very fume or smoke of this hearbe will rid hens and such like pulleen of the pip." It was employed by the Arabian physicians for the same purposes as mentioned by Dioscorides.

Schröd (669) says: "In mensibus fortiter ciendis, fœtu ejiciendo, urina pellendu, asthmata medendo. Extrinsecus in affectibus uterinis, ulceribus, serpentibus arcendis, scabie, præcipue capitis infantum, exsiccarda ac curanda (cum cremore lactis) in maculis faciei abstergendis. It is said to kill worms in horses, cows, dogs, as well as in children. Oleum sabinæ ventri inunctum aut frondes ejus tusæ et umbilico impositæ vermes puerorum execant. Decoctum intro sumptum idem præstat. Verum usu ejus internum minus tutum putat Parkinsonus. It is commended also in the jaundice, dropsy, asthma, gout, fluor albus, corns; also for vermis umbilicalis. Pene infumis facta est apud nos, quod nobile ατικον sit apud vulgus. But I doubt of its being so dangerous as is commonly believed in pregnancy, though it cannot be often proper there" (*Alston, Lect. on Mat. Med.*)

At the present time, in allopathic practice, it is chiefly employed as an ingredient in some of the emmenagogues. Pereira (op. cit.) states it to be the most certain and powerful emmenagogue of the whole Materia Medica. As a topical agent, it is frequently employed in the form of a cerate to make perpetual blisters.

Description.—Juniperus Sabina is a fine evergreen shrub, sometimes disposed to spread horizontally, sometimes rising erect to the height of eight or ten feet. It flowers in April and May. Its trunk is sometimes a foot in diameter. It is covered with a reddish-brown bark, and sends off many branches numerously subdivided. The *leaves* are very small, numerous, and erect; opposite, pointed, of a bright green colour, and wholly invest the younger branches, which terminate in sharp points. The *male* catkin is conical, and consists of three opposite florets,

placed in a triple row, and a terminal one at the end; and at the base of each flower is a broad oval scale, fixed laterally to a columnar pedicel. There is no *corolla*. The *filaments* in the terminal flower are three, awl-shaped, and united at the base with roundish anthers; but in the lateral flowers the filaments are scarcely distinguishable, and the anthers are sessile. In the *female* flowers, the *calyx* is composed of three minute scales, united with the germen. The *petals* are three, rigid, acute, and permanent, and the *germen* supports three styles, with simple stigmas. The *fruit* is a roundish, fleshy berry, of a blackish-purple colour, marked with tubercles, and containing three small, irregular-shaped, hard seeds.

Geographical Distribution.—Native of the south of Europe and the Levant. It has been cultivated in this country from a very early period.

Parts used in Medicine, and Mode of Preparation.—The Fresh Leaves, which are to be pounded in an iron mortar, adding half its quantity of alcohol, rubbing the mixture for a time, then expressing the juice, and afterwards adding two-thirds of its weight of alcohol; the clear liquid is drawn off after the whole has stood a few days.

Physiological Effects.—*On Animals.* Savin acts on animals as an acrid poison. Orfila (op. cit.) applied two drachms of the powder to an incised wound in the leg of a dog; inflammation and infiltration of the limb took place, and death occurred in about thirty-six hours. Four drachms introduced into the stomach of a dog, and the œsophagus tied, caused death in fifteen hours; the stomach was bright red. Orfila infers that its effects depend principally on its absorption, and its action on the nervous system and the stomach. A drachm of the oil of Savin was given to a cat; it caused a flow of saliva, anxiety, frequent micturition, dullness, trembling, and, in an hour and a quarter, bloody urine. The animal having been strangled, the bladder was found contracted, and some coagulated blood contained in its cavity (*Pereira, op. cit.*)

On Man.—Oil of Savin, the active principle of the herb, is a powerful local irritant; when applied to the skin, it acts as a rubefacient and vesicant. On wounds and ulcers its operation is that of an acrid (not chemical) caustic. Swallowed in large doses, it occasions vomiting, purging, and other symptoms of gastro-intestinal inflammation. In its operation on the system generally, it is powerfully stimulant. Savin, says Sundelin (*Heilmittellehere*, bd. ii. 8, 180), operates not merely as irritants generally do, as a stimulant to the arterial system, but it also eminently heightens the vitality of the venous system, the circulation in which it quickens. It next powerfully stimulates the absorbing vessels and glands, the serous, the fibrous, and the mucous membranes and the skin. It operates as a specific excitant and irritant on the kidneys, and yet more obviously on the uterus. The increased secretion of bile, and the augmented volume of the liver, both of which conditions have sometimes been observed after the copious and long-continued use of Savin, appear to be connected with its action on the venous system. Mohrenheim (*Murray, App. to Mat. Med.*) mentions the case of a woman, thirty years of age, who swallowed an infusion of Savin to occasion abortion. Violent and excessive vomiting was induced. After some days she experienced excruciating pains, which were followed by abortion, dreadful hemorrhage from the uterus, and death. On examination, the gall-bladder was found ruptured, the bile effused in the abdomen, and the intestines inflamed. The popular notion of its tendency to procure abortion leads, on many occasions, to the improper use of Savin. Vogt states that it has a tendency to induce an apoplectic state in the fœtus. Christison (op. cit.) states that Savin acts as an irritant poison, and not as an abortive; that delivery can never be obtained by the use of this plant without jeopardizing life, and it will destroy life without producing the effect intended. Violent pain in the abdomen, vomiting, and strangury are the chief symptoms of poisoning by this plant.

In some instances of death from Savin, the poison can only be detected by the use of a powerful microscope (*Med. Gaz.*, May, 1845).

Foderé (*Méd. Légale*, vol. iv. p. 430) mentions a case where a large quantity of the powdered leaves was taken. Vomiting, hiccup, heat in the abdomen, and fever, of a fortnight's duration, were produced, without abortion.

Dr. Trail mentions the following case:—"A servant girl, after being some time in low spirits, was seized with violent colic pains, frequent vomiting, straining at stool, tenderness of the abdomen, dysuria, and general fever, under which symptoms she died, after several days' suffering. The stomach was inflamed, in parts black, and at the lower curvature perforated. The uterus, with its appendages, were very red, and contained a fine membrana decidua, but no ovum. The lower intestines were inflamed. There was found in the stomach a greenish powder, which, when washed and dried, had the taste of Savin."

Medical Uses (Homœopathic).—Stapf (*Add. to the Mat. Med.*) says: "Sabina has been heretofore employed in two different affections of the same organ, partly to bring on the catamenia, and, in general, to stimulate the circulation (hence in chlorosis), partly to suppress bad hemorrhages from the uterus. It is evident that Sabina could not be the proper remedy in two such opposite affections, and that in one of them it must have been administered improperly. We now know from experience, that it cures hemorrhages from the uterus, as has first been remarked by Wedekind (*De Usu Sabinæ, Marburg*, 1816, p. 27). This view has been confirmed by the provings which homœopathic physicians have instituted with Sabina upon the healthy organism, and which show, on the one hand, that Sabina has a tendency to excite the arterial (?) circulation of the uterus; and, on the other hand, they confirm the truth of the homœopathic law, inasmuch as hemorrhages from the uterus are cured even by allopathic doctors by the use of Sabina. How different were the results obtained by the use

of Sabina in stoppage of the catamenia. In such cases it has either never or but rarely done any good; and even in cases where the catamenia were restored by Sabina, the result was merely palliative, and frequently followed by the most disagreeable consequences.

"The hemorrhages occasioned by Crocus seem to differ from those of Sabina, in more than one respect, especially in that of colour and consistence. The blood of the former is characterised by a dark colour and consistence; the blood excited by the latter is distinguished by a brighter redness and fluidity, from which we may perhaps infer that Crocus acts especially upon the veins, and Sabina upon the arteries; this supposition, however, requires confirmation.

"Next to the pathogenetic action of Sabina upon the sexual organs, there are many symptoms which show its great power to affect morbidly the periosteum, the joints, mucous membrane, and other analogous parts. Rau recommends Sabina against chronic articular gout. A writer in *Hufeland's Journal*, against a kind of gout which he calls arthritis fixa apyretica, even when nodosities have begun to form, and when anchylosis threatens to set in. Hufeland praises it in any kind of gout, not only nodous gout, but also arthritic pains in the head and chest.

"Of course, such general recommendations and definitions as the foregoing are not sufficient for the homœopathic practitioner. To use Sabina and any other drug successfully, we have not only to specify with the utmost care the finest shades of morbid action which it is capable of exercising upon the organism, but we have also to investigate the minutest shades of morbid symptoms which we intend to cure."

ANTIDOTES.—Camphor and Pulsatilla.

LIV.

SAMBUCUS* NIGRA.

The Elder.

Synonyms.—Sambucus, *Raii Syn.*, 461; *Ger. Em.*, 1422, f.; *Math. Vulg.*, vol. ii. 606, f.; *Camer. Epit.*, 975, f.; *Fuchs. Hist.*, 64, f. Sambucus acinis albis, *Raii Syn.*, 461. Sambucus laciniatis foliis, *Bauh.* Πιν., 456. Sambucus, *n.* 670; *Hall Hist.*, vol. i. p. 298. Sambucus nigra, *Linn. Sp. Pl.*, 395; *Willd.*, vol. i. p. 1495; *Fl. Brit.*, 336.

Foreign Names.—*Fr.:* Sureau. *Ital.:* Sambuco. *Span.:* Sauco. *Port.:* Sabuguerio. *Germ.:* Gemeine hollander. *Dut.:* Vlierboom. *Swed.:* Flaeder. *Dan.:* Hyld. *Russ.:* Bugina tschernaia.

Nat. Order, Dumosæ, *Linn.*; Caprifolia, *Juss.*; Caprifoliaceæ, *De Cand.*—Pentandria, Trigynia.

Gen. Char.—Limb of the *calyx* small, five-cleft. *Corolla* rotate, pitcher-shaped, five-cleft; its lobes obtuse. *Stamens* five. *Style* none. *Stigmas* three, sessile. *Berry* roundish, scarcely crowned, pulpy, one-celled, three to five-seeded; funiculi bearing the oblong seeds in the axis of the fruit (*De Cand.*)

Spec. Char.—*Stem* shrubby, somewhat arboreous. *Leaves* pinnatifid, smooth. *Segments* ovato-lanceolate, serrate. *Corymbs* five-partite (*De Cand.*)

History.—Dioscorides describes two species of Elder: Ακτη μεγάλη (*Sambucus nigra*), and A. χαμαιάκτη (*S. humilis vel Ebulus*). Hippocrates employed Ακτη (*Sambucus*) in medicine, and the ἀ of Theophrastus is the *Sambucus nigra* of later authors. This plant was well known to the Arabian physicians.

Fig. 1. The young stem, with the leaves and cyme. 2. A flower slightly magnified. The figures are taken from Woodville's Medical Botany. 3. Cluster of berries.

* From *sambuca*, a musical instrument of the ancients, usually made of this plant (*Dr. Withering*).

H.Sowerby, lith.

Sambucus nigra.

F.Reeve, imp

It is the *Acte* of Rhases, and the *Aktha* of Ebn Baithar. According to Dr. Adams (op. cit.), the *Sambucus* of Avicenna is not the Elder, but the Jasmine; and the Arabians and Syrians of the present day still use the inner green bark for the same purposes for which it was employed in earlier times. It was employed by Boerhaave and Sydenham as a powerful hydragogue and cathartic in dropsies, and it is still a popular remedy for the same disease. The flowers were formerly used as an infusion for erysipelas, rheumatisms, small-pox, etc. It was the chief ingredient in Lady Mary Douglas's specific; and Elder-flower water and Elder-flower ointment were in every domestic medicine case; the North American Indians make an eye-water from the young leaves of the Elder.

DESCRIPTION.—This well-known tree, so common to our hedges and woods, growing sometimes to the height of from twelve to sixteen feet, rises with a woody trunk filled with a white medullary substance or pith, and covered externally with a rough, ash-coloured bark. The younger *branches* are smooth, and contain a large quantity of pith. The *leaves* are long, of a shining green colour, and composed usually of two pairs of leaflets, with an odd one, which are pointed, serrated, smooth, and nearly equal at the base. The *flowers* are numerous, cream coloured, and form a large beautiful cyme, with five principal branches, and many small ones at the extremity of the stem and branches. The *calyx* is superior, permanent, and cut into five deep segments. The *corolla* is synpetalous, nearly wheel-shaped, with five deep obtuse, somewhat reflexed segments. The *filaments* are fine, awl-shaped, about the length of the corolla, and bearing roundish, heart-shaped, yellow anthers. The *germen* is ovate, without a style, but supporting three obtuse stigmas. The *berries* are spherical, of one cell, containing three, sometimes two, seeds; convex on one side, angular on the other. The berries have at first a reddish hue, but become of a purplish-black colour when ripe.

GEOGRAPHICAL DISTRIBUTION.—Great Britain, France, and a great part of Europe. Found in hedges and woods near villages, etc.

PARTS USED IN MEDICINE, AND MODE OF PREPARATION.—The Liber, or Inner Bark (*cortex interior Sambuci*), reduced to paste by means of a little alcohol in a mortar. The juice is expressed and treated in the same manner as that of fresh plants. Many also use the united juices of the leaves and flowers, mixed with equal parts of alcohol, and then attenuated as usual.

PHYSIOLOGICAL EFFECTS.—*On Plants.* Plants are affected from the exhalation of the Elder. No plants will grow under the shadow of this tree.

On Animals.—The berries are said to be poisonous to poultry, and the flowers to peafowls. If turnips, cabbages, fruit-trees, or corn (which are subject to blight from a variety of insects) are whipped with the green leaves and branches of Elder, the insects will not attack them (*With.*, l. c.; vide *Philos. Trans.*, vol. lxii. p. 348).

On Man.—The whole plant has an unpleasant narcotic smell, and some authors (*Barthol. Hist. Anat. Rar.*) state that its exhalations are so noxious as to render it unsafe to sleep under its shade.

The inner bark (*liber*) has scarcely any smell, and very little taste. On first chewing, it expresses a degree of sweetishness, which is followed by very slight but durable acrimony, in which its powers seem to reside. It acts violently on the internal coat of the intestines, and its action, both as an emetic and cathartic, is occasionally so violent that inflammation of the intestines has been produced, and death has been the result.*

MEDICAL USES (HOMŒOPATHIC).—*Hahnemann's observations:*

"With the exception of Chamomilla, no plant has been so little

* For further physiological effects, see the provings of this medicine in Hahnemann's Mat. Med. Pura, vol. iv.

appreciated in domestic medicine as this. It has scarcely been admitted into the list of regular medicines, but merely treated as a popular remedy, and undervalued as of trifling importance. It is true that Elder is in very common use, which is a tacit confession of its utility in a variety of respects; but it by no means follows that it is incapable of doing harm in cases to which it is unsuitable; for common sense teaches us that, as it contains powerful medicinal properties, it must produce bad effects when it is improperly given.

"People do not generally understand the effects which Elder occasions when misapplied, because they are ignorant of its pure symptoms in healthy subjects; therefore, in the mixtures of drugs so often prescribed, it has appeared to be thought of little importance whether an infusion of Chamomilla or Elder has been used. How, then, can they possibly know whether either of these is beneficial or hurtful? Sometimes they are prescribed for persons in good health, to preserve it! So little is known of the nature of medicines.

"Enough has been studied of the symptoms of Elder to show that it produces real morbid affections; from which may be inferred the cases in which it is likely to be homœopathically beneficial.

"The smallest dose is sufficient to produce the requisite effect. Ample infusions therefore can do no more, but are injurious in promoting too great an excess of heat and perspiration, and thus weakening the patient and protracting the cure."

Clinical Observations (*Noack and Trinks*, op. cit.)—This plant has been useful in some kinds of rheumatism, with drawing pains in the limbs and loins, diminished by movement and increased by rest. In intermittent fever, with excessive perspiration, particularly at night. In debilitating night-sweats, in phthisis, as a palliative. In croup, with sopor, stertorous breathing, and head drawn back. Deep, hollow, croup-like

cough. Asthma Millari. Cough, with saltish expectoration. Angina pectoris, etc.

ANTIDOTES.—To small doses: Arsenicum. Camphora.

C.C. Sowerby lith.

Sarsaparilla.
(Smilax Medica.)

LV.

SARSAPARILLA.

(SMILAX MEDICA.*)

Synonyms.—Smilax aspera peruviana sive Sarsaparilla, *Bauh. Hv.*, p. 296. Smilax peruviana Sarsaparilla, *Ger. Em.*, p. 859, f. Smilax viticulo asperis virginiana folio hederaceo leni Zarga nobilissima, *Pluk. Alm.*, p. 348, l. 111; *Raii Suppl.*, p. 345. Smilax glauca ramis subteribus passim aculeatis foliis quæsi cordato ovatibus acuminatis, *Mich. Amer.*, vol. ii. p. 237. Smilax Sarsaparilla, *Linn.*, *Sp. Pl.*, p. 1459; *Willd.*, vol. ii. p. 776; *Woodv.*, vol. iii. t. 194. Smilax medica, *N. V. Esen.* Smilax officinalis, *Humb. and Bonp. Nov. Gen.*

Foreign Names.—*Fr.:* Salsepareille. *Ital.:* Salsapariglia. *Span.:* Sarzaparilla. *Port.:* Salsa-parrilha. *Germ.:* Sarsaparell, Sassaparille. *Dut.:* Sarsaparille. *Swed.:* Sassaparill. *Dan.:* Sarsaparill. *Russ.:* Sassaparel.

Nat. Order, Smilaceæ, *Lindl.*—Diœcia, Hexandria.

Gen. Char.—*Diœcious.* *Perianth* six-parted, nearly equal, spreading. *Male flowers: Stamens* six. *Anthers* erect. *Female flowers: Perianth* permanent. *Ovary* three-celled; the cells one-seeded. *Style* very short. *Stigmas* three. *Berry* one to three-seeded. *Seeds* roundish. *Albumen* cartilaginous. *Embryo* remote from the hilum.

Spec. Char.—*Stems* angular, twining, armed at the joints with straight prickles. *Leaves* shortly acuminate, smooth. *Inflorescence* an eight or twelve-flowered umbel. *Fruit* red, size of a small cherry.

History.—This drug was introduced into Europe about the middle of the sixteenth century, and soon afterwards became a

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Fig. 1. Calyx and anthers. 2, 3, 4. The fruit.

* Four different species of Smilax are supposed to yield the Sarsaparilla of commerce, viz.: *Smilax officinalis* (Kunth), *Smilax medica* (Schlecht), *Smilax siphilitica* (Willd.), and *Smilax Sarsaparilla* (Linn.) The Smilax medica, from Nees Von Esenbeck's beautiful work, has been figured as the type of the genus.

popular remedy, which it has continued up to the present time. C. Bauhin states that it was first introduced into Spain in 1573. Monardes states it was brought from New Spain to Madrid in 1540. The word Sarsaparilla is of Spanish origin, from *zarza*, a bramble, and *parilla*, a vine. It has been employed in chronic rheumatism, obstinate skin diseases, and in cachectic conditions of the system generally; it has been remarked by Mr. Lawrence, that physicians have no confidence in this drug as a remedy, and surgeons a great deal; and Pereira explains this by stating that, generally, physicians are much less frequently called in to prescribe for those forms of disease in the treatment of which surgeons have found Sarsaparilla so efficacious. To those who have studied the pathogenetic effects of this drug this fact is more easily and more readily explained.

Description.—Smilax medica has an angular *stem*, with strong prickles at the knots, and only a few at the intervals. It produces *leaves* about six inches long, chartaceous, acuminated, cordate, ovate, or hastate; and it bears umbels of *flowers*, which are succeeded by crimson *berries*, somewhat larger than the mountain ash.

Geographical Distribution.—South America. Smilax medica is found on the eastern slope of the Mexican Andes, and furnishes the root which is exported from Vera Cruz under the name of Sarsaparilla.

Parts used in Medicine, and Mode of Preparation.—The Roots, which are folded and formed into bundles (*Sarsaparilla rotunda*) two or three feet long, in the interior of which are found roots of inferior quality, stones, clumps of wood, etc. The roots or runners are furnished with but few rootlets. The colour is dirty or greyish-brown. The cortex consists of a thin epidermis, within which is a thick white amylaceous layer, which gives to this variety (*Honduras*) its remarkable *mealy* appearance when broken. This cortical

portion readily cracks transversely, and shells off, leaving the meditullium, which is thinner than in the Jamaica kind. The taste of the root is amylaceous, and ultimately somewhat acrid; its decoction becomes intensely blue by the addition of a solution of iodine. Its powder is fawn coloured, and when rubbed with water and tincture of iodine becomes intensely bluish-black (*Pereira*). In preparing for homœopathic purposes, care must be taken to free the roots from all impurities, by scraping, etc. The three first attenuations are made by trituration. Alcohol does not dissolve all the active properties of the root. The Honduras Sarsaparilla is that which is generally used for homœopathic purposes.

Physiological Effects.—To the taste Sarsaparilla is slightly acrid and somewhat nauseous. Diaphoresis is by far the most common effect of its internal use; when the skin is kept cool, diuresis is not unusual. In several cases, I have given the powder of this root in very large doses, in order to ascertain its effects. Nausea, vomiting, and temporary loss of appetite were alone observed (*Pereira*, op. cit.)

Dr. Hancock (*Trans. Med. Bot. Society*, 1829) says that, in one patient, an African, an infusion of four ounces of the Negro Sarsa acted as a narcotic, producing nausea, great prostration of strength, torpor, and unwillingness to move; the pulse was scarcely altered, unless it were a little retarded.

Medical Uses (Homœopathic).—*Hahnemann's observations:*

"As Sarsaparilla bears some resemblance in its external appearance to the root of Carex Arenaria, the authors of the *Materia Medica* have prescribed the latter in preference, persuaded that it is equal, if not superior, in its virtues; and being of indigenous growth, it is patriotic to employ it. For this reason, and because it has a more powerful though very different odour, and possesses a similar form, they judge it worthy to take place of Sarsaparilla!

"It is evident that Sarsaparilla has been suspected, without

reason, of being deficient in power. Boiling deprives it in great measure of its virtues. A single strong dose will act a fortnight.

Clinical Observations show that this drug has been found useful as a homœopathic medicine in Hydrargyrosis. Chronic gout. Crusta lactea. Herpes nasalis. In some rheumatic cases. In cold feet previous to going to bed. In perspiration on the forehead, and paralytic weakness of the hands and feet.

Antidote.—To small doses: Camphora.

Plate LVI.

Scilla Maritima.

LVI.

SCILLA MARITIMA.

Officinal Squill, or Sea Onion.

Synonyms.—Scilla Hispanica vulgaris, *Ger. Em.*, p. 17, i.; *Clus. Hist.*, p. 171. Scilla rufa magna vulgaris, *Bauh.*, vol. ii. p. 615, f. Scilla vulgaris radice rubra, *Bauh. Hav.*, p. 73. Sancratium, *Clus. Hist.*, p. 293. Ornithogalum Squilla, *Bot. Mag.*, vol. v. p. 24, l. 918. Ornithogalum maritimum, *Tour. Inst.*, p. 381; *Brotero, Fl. Lusit.*, vol. i. p. 583; *Fl. Franc.*, vol. iii. p. 276. Scilla maritima, *Linn. Sp. Pl.*, p. 442; *Willd.*, vol. ii. p. 125.

Foreign Names.—*Fr.:* Scille, Orignon marine. *Ital.:* Scilli, Ciropollo marina, Sancrazio. *Span.:* Escella, Cebolla albarana. *Port.:* Esquilla, Cebolla alvarii. *Germ.:* Mierswiebel, Squille. *Dan.:* Skelle. *Swed.:* Skille.

Nat. Order, Coronariæ, *Linn.*; Asphodeli, *Juss.*; Liliaceæ, *De Cand.*—Hexandria, Monogynia.

Gen. Char.—*Sepals* three, coloured, spreading. *Petals* very like them, and scarcely broader. *Stamens* six, shorter than the perianth. *Filaments* smooth, somewhat dilated at the base, acuminate, entire. *Ovary* three-parted, glandular, and melliferous at the apex. *Style* smooth, simple. *Stigma* obscurely three-lobed, papillose. *Capsule* rounded, three-cornered, three-celled. *Seeds* numerous, in two rows, flattened, with a membranous testa (*Lindley, from Steinheil*).

Spec. Char.—*Leaves* very large, subsequently spreading, bracts long. *Flowers* white; flower-bud somewhat acute. *Anthers* yellow. *Ovarium* thick, yellowish. *Bulb* very large.

History.—Scilla (Σκιλλα) was a favourite remedy with the ancient physicians. The Egyptians worshipped a bulbous plant, called by Lucian Κρομνον, which has been suggested to be the red variety of the Scilla maritima. Pythagoras is sup-

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Fig. 1. The cormus. 2. The leaves. 3. The flowering stem. 4. Calyx and corolla. 5. Anthers. 6. Section of the seed-vessel.

posed to have written largely upon the medicinal virtues of Squill, and to have invented the Acetum Scillæ. Dioscorides recommended it in dropsies, coughs, jaundice, chronic coughs, asthma, etc. Hippocrates employed it both internally and externally.

Celsus frequently prescribed it, and it was a very favourite remedy with all the Arabian physicians. Serapion gave it as a laxative in fevers, and as a diuretic in dropsies; as a remedy in jaundice, in old coughs, in asthma, spitting of blood, and for cleansing the breast of gross humours. It is to be avoided, he says, when there is an ulcer of any internal part.

Avicenna employed it in complaints of the gums, in inveterate coughs, epilepsy, in diseases of the spleen, in dropsy and jaundice, and forbids its use in ulceration of the viscera.

Its uses at the present time are as an emetic, diuretic, and expectorant. As a diuretic, in dropsies requiring the use of stimulating or acrid diuretics, but improper in inflammatory cases, or in those complicated with granulated kidney; as an expectorant, in chronic catarrh, humid asthma, and winter cough; as an emetic, in hooping cough, and in some cases of croup, etc.

Description.—Squill is a perennial plant, and in its native soil flowers from July to September, and the *leaves* appear in October and November. The *bulb* is roundish, ovate, pyriform, half above ground, sometimes as large as a child's head, and is composed of thick, fleshy, smooth, shining scales, attenuated at their edges, closely applied over each other, and attached to a conical disk (rudimentary stem), which projects inferiorly, and from which the proper roots issue. The colour of the bulb is either white or red, or cinnamon colour. The *leaves* appear long after the flowers; are broad, lanceolate, and twelve to eighteen inches in length. The *scape* is about two feet in height, terminated by a dense, long raceme. The *flowers* are extremely numerous, and produced in long, close, simple clusters, on purplish peduncles, with small linear, twisted, de-

ciduous bracteas. The *corolla* consists of six white spreading petals, with a reddish mark in the middle of each. The *filaments* are six, awl-shaped, shorter than the petals, to whose bases they are attached, and furnished with oblong, incumbent, green anthers. The *germen* is roundish, with a short style and simple stigma.

Geographical Distribution.—On the sandy shores of France, Italy, Sicily, Spain, Portugal, Syria, and the Levant. On the sea-coasts of Asia and Africa. It has been found as far inland as the Estrella Mountains. Navarino has long been celebrated for its Squills.

Parts used in Medicine, and Mode of Preparation.—The Bulb (the red variety is to be preferred), as fresh as possible, is to be cut up in slices and pounded in a mortar, adding gradually an equal part of alcohol. When reduced to an homogeneous paste, five parts of alcohol are added; the liquid is then set aside for some days, and the clear brown tincture decanted. It is important to remember that the dried Squill (*Radix Scillæ siccata*), as found in commerce, should never be used for homœopathic purposes.

Physiological Effects.—*On Animals.* An ounce of powdered Squill acts as a diuretic on horses and other large animals. The same effect is produced on smaller animals by half a drachm. When the dose is large, Squill acts as a poison. It first causes local irritation; then its active principle becomes absorbed, affects the nervous system, and thereby quickens the respiration; causes convulsions and death. Hillefield mentions paralysis produced in a rabbit by nineteen grains of powdered Squill. Athanasius (*Pfaff, Mat. Med.*) states that two ounces of water distilled from fresh Squills caused the death of a dog in six hours.

On Man.—In small doses, it acts as a stimulant to the excretory organs; thus it promotes secretion from the mucous membranes (especially the bronchial and gastro-intestinal) and the kidneys. Its most marked effect is that of a diuretic. Its

expectorant effects are less obvious and constant. Sometimes, when it fails to act on the kidneys, it increases cutaneous exhalation. Its influence on secretory organs is probably to be referred to the local stimulus communicated to their vessels by the active principle of Squill, in its passage out of the system, for Emmert and Hering (op. cit.) have shown that the juice is absorbed; so that Squills may be regarded as an acrid even for these remote parts. When it proves diuretic in dropsies, it usually promotes the absorption of the effused fluid—an effect which is, I think, indirect, and a consequence of the diuresis. But Sundelin (*Handb. d. sp. Heilm.*, Bd. ii. p. 17) observes of Squill, that it promotes the secretion, less by its local irritation of the kidneys than by its general excitement of the absorbent apparatus (*Pereira*, op. cit.)

In full medicinal doses, Squill excites nausea and vomiting. Purging also is not unfrequently produced. In excessive doses, Squill acts as a narcotico-acrid poison, and causes vomiting, purging, griping pain, strangury, bloody urine, convulsions, inflammation and gangrene of the stomach and intestines. Twenty-four grains of the powder have proved fatal.

Lange, in a treatise on the domestic remedies of Brunswick, mentions an instance of a woman who died in convulsions after taking a spoonful of the root in powder. Christison states that he has seen a quarter of an ounce of syrup of Squills, which is a common medicinal dose, cause severe vomiting, purging, and pain.

Medical Uses (Homœopathic).—*Hahnemann's observations:* "The primary effect of Scilla is to excite the mucous glands of the trachea and bronchial tubes, so that the mucus becomes thinner and looser, and can be thrown off more readily. When used as an expectorant, it palliates the symptoms; and if the tenacious mucus in the chest be a chronic ailment, Scilla finally increases the suffering, inasmuch as, by a reaction of the organism, the mucus in the bronchial tubes becomes more and more tenacious, and the cough more dry. Scilla is therefore

useful for excessive secretion of mucus in the chest, for which it has already been recommended by *Weickard*. The primary effect of Scilla upon the urinary passages is great ardor urinæ, with copious emission of clear secretion. In a few hours after this first and positive effect of Scilla, the secondary effect or reaction of the organism takes place, being the contrary of the primary effect, viz., little desire for micturition and scanty secretion. Dropsical swellings can only be cured by Scilla when the symptoms of the urinary organs correspond to those of Scilla: such are very rare. Scilla will, on the contrary, be found a specific remedy for diabetes.

Clinical Observations.—*Noack and Trinks:* Anasarca. Ascites (the medicine was continued for three months). Pneumonia, with great expectoration. Pleurisy, with dry cough. Diabetes insipidus, etc.

Antidote.—Camphora.

LVII.

SECALE CORNUTUM.

*Spurred Rye, or Ergot.**

Synonyms.—Clavi siliginis, *Lonicerus*. Secalis mater, *Thalius*. Secale luxurians, *Bauh. Πιν.*, lib. i. sec. iv. p. 23. Grana secalis degenerati, *Brunner*. Secale cornutum, *Baldinger*. Clavus secalis vel secalinus, Secale maternum, turgidum vel temulentum; Ergota, ***Ph. Lon. et Edin.***

Foreign Names.—*Fr.:* Ergot, Seigle ergoté. *Ital.:* Allogliato. *Germ.:* Mutterkorn, Roggenmutter. *Dut.:* Spoor. *Dan.:* Sōm. *Russ.:* Sporinia, Rojki.

Thallogens, *All.* II.; Fungales, *Lindley*.

History.—No undoubted notice of Ergot is found in the writings of the ancients. The disease produced by it is supposed to be referred to in the following passage:—"1089. A pestilent year, especially in the western parts of Lorraine, where many persons became putrid, in consequence of their inward parts being consumed by St. Anthony's fire. Their limbs were rotten, and became black like coal. They either perished miserably, or, deprived of their putrid hands and feet, were reserved for a more miserable life. Moreover, many cripples were afflicted with contraction of the sinews" [ner-

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Fig. 1. A grain of Ergot. 2. A grain with part of the outer rind denuded. 3. A grain magnified, showing the Sphacelia segetum of Lereille. 4. Section of a grain magnified. 5. The grains *in situ*. The figures are taken from Nees Von Esenbeck.

* Ergot is an undetermined fungus, with degenerated seed of the Secale cereale, Common cultivated Rye. *Nat Order*, Gramineæ, *Juss.*; Hordeaceæ, *Burn.*; Triandria, Digynia, *Linn.*

Secale Cornutum.

C C. Sowerby lith.

F Reeve imp.

vosum contractio]—*Sigebert, Rec. des Hist. des Gaules de la France ;* (*Pereira,* op. cit.)

The first botanical writer who notices Ergot is Lonicerus. It seems to have been employed by women to promote labour-pains, long before its powers were known to the profession. Camerarius, in 1683, mentions that it was a popular remedy in Germany for accelerating parturition. In Italy and France also it appears to have been long in use (*Idem*).

Ergot first attracted the attention of physicians in 1596, as a cause of epidemic disease in Hessia ; and although its medicinal properties seem to have been known in Germany since at least the middle of the subsequent century, they did not become familiar to professional men till the publication of the essays of Desgranges in 1777, and more especially of Stearns and of Prescott, of the United States, thirty years later (*Christison*).

Description.*—When we examine a number of ears of ergotized Rye, we find that the number of grains in each spike which have become ergotized varies considerably ; there may be one only, or the spike may be covered with them ; usually the number is from three to ten. The mature Ergot projects considerably beyond the paleæ. It has a violet-black colour, and presents scarcely any filaments and sporidia. The spurred Rye, or Ergot of commerce, consists of grains, which vary in length from a few lines to an inch and a half, and whose breadth is from half a line to four lines. Their *form* is cylindrical or obscurely triangular, with obtuse angles, tapering at the extremities (fusiform), curved like the spur of a cock, unequally furrowed on two sides, often irregularly cracked and fissured. The *odour* of a single grain is not detectable, but of a large quantity is fishy, peculiar, and nauseous. The *taste* is not very marked, but is disagreeable and very slightly acrid. The *grains* are externally purplish-brown or black, more or less covered by a bloom, moderately brittle ; the fractured

* The following description of Ergot is taken from Pereira's last edition of the "Elements of Materia Medica and Therapeutics."

surface being tolerably smooth, and whitish or purplish-white. This bloom, which to a greater or less extent covers the violet coat of the Ergot, resembles the bloom of plums, and may be readily wiped off.

According to the late Mr. Quekett, it consists of the sporidia of the *Oridium abortifaciens*, a microscopic fungus first described by Phillipar in 1837, the sporidia of which are, on the average, about 1-4000th of an inch long, and 1-6000th of an inch broad; but Corda describes it as consisting of two parts, a layer of cylindrical undivided cells supporting the spores.

The nature and formation of Ergot are subjects on which botanists have been much divided in opinion.

First. *Some regard Ergot as a fungus growing between the glumes of grasses, in the place of the ovary.* Otto Von Münchausen, Schrank, De Candolle, Fries, Wiggers, and formerly Berkeley, adopted this opinion, and described Ergot as a fungus, under the name of *Spermædia clavus* (Fries), *Clavaria clavus* (Münch.), *Scleroticum clavus* (De Cand.) Fries and Berkeley, however, evidently entertained doubts respecting its nature; for the first suggests that the genus Spermædia consists of "*semina graminum morbosa*," and the second says, "it appears to be only a diseased state of the grain, and has scarcely sufficient claim to be admitted among fungi as a distinct genus." The latest writer who has adopted this view is Guibourt, who concludes that Ergot is not an ovary or altered grain, but a fungus, which, *after the destruction of the ovary*, is grafted in its place on the peduncle. Against this opinion may be urged the circumstance noticed by Tessier, that a part only of the grain may be ergotized. Moreover, the scales of the base of the Ergot, the frequent remains of the stigma on its top, and the articulation of it to the receptacle, prove that it is not an independent fungus, but an altered grain.

Secondly. *Some regard Ergot as a diseased condition of the*

ovary or seed. The arguments adduced against the last opinion are in favour of the present one. Though a considerable number of writers have taken this view of the nature of Ergot, there has been great discordance among them as to the causes which produced the disease.

α. Some have supposed that ordinary morbific causes (such as moisture, combined with warmth) were sufficient to give rise to this diseased condition of the grain. Tessier and Wildenow appear to be of this opinion.

β. Some have ascribed the disease to the attack of insects or other animals. Tillet, Fontana, Read, and Field supported this view, which, I may add, has subsequently been satisfactorily disproved.

γ. Some, dissatisfied with the previously-assigned causes of the disease, have been content with declaring Ergot to be a disease, but without specifying the circumstances which induce it. M. Bauer and Phœbus have arrived at this conclusion.

Mr. Quekett has infected grains of corn, by immersing them in water in which the sporidia of the *Ergotætia abortifaciens* were contained; the plants which were produced by the germination of the grains were all ergotized. Mr. Quekett, who has most carefully examined the development of Ergot, says that the first appearance of Ergot is observed by the young grain and its appendages becoming covered with a white coating composed of multitudes of sporidia, mixed with minute cobweb-like filaments. This coating extends over all the other parts of the grain, cements the anthers and stigmas together, and gives the whole a mildewed appearance. When the grain is immersed in water, the sporidia fall to the bottom of the liquid.

If we examine the Ergot when about half-grown, we find it just beginning to show itself above the paleæ, and presenting a purplish-black colour. By this time it has lost, in part, its white coating, and the production of sporidia and filaments has nearly ceased; at the upper portion of the grain the coating now presents a vermiform appearance, which Léveillé

describes as constituting cerebriform undulations. He regards this terminal tubercle of the grain as a parasitical fungus, which he calls *Sphacelia Segetum*. But these undulations are merely masses of sporidia, as can be made evident by the microscope.

The mature Ergot projects considerably beyond the paleæ. It has a violet-black colour, and presents scarcely any filaments and sporidia. The number of grains in each spike which becomes ergotized varies considerably, there may be one only, or the spike may be covered with them; usually the number is from three to ten.

Besides Rye, many other grasses (Phœbus has enumerated thirty-one species) are subject to this alteration, called the Spur or Ergot. In the summer of 1838, nearly all the grasses growing in Greenwich marshes were found ergotized. Professor Henslow found it in wheat which had been sent to the miller; but the disease is not confined to the Gramineæ, the Cyperaceæ are also subject to it, and perhaps also Palmaceæ.

Geographical Distribution.—Ergot is found in all countries where the plants grow which may become ergotized. It is imported into this country from Germany, France, and America.

Parts used in Medicine, and Mode of Preparation.—The mature Ergot, which is gathered before the grain is harvested, and the three first attenuations are generally made by trituration.

Deterioration.—The Ergot of Rye is fed on by a little acarus, which is about one-fourth the size of a cheese mite. The animal destroys the interior of the Ergot, and leaves the grain as a mere shell. It produces much powdery excrementitious matter. It is advisable not to use Ergot which has been kept for more than two years.

Physiological Effects.—*On Animals.* Ergot, undeteriorated, exerts a poisonous effect on all classes of organic structures. Schupler and Zetter found it poisonous to vegetables. It is poisonous to most of the insect tribe, to leeches, birds, and

mammals. Birds and mammals refuse to take it even mixed with other kinds of food. It requires, in most instances, that the animals should be fed for some time upon it before it produces fatal consequences, and that those animals, in which it produces vomiting, suffer very little from its effects.

Diez gives the following as the symptoms produced by it on dogs who are compelled to swallow it: "great aversion to the Ergot; discharge of saliva and mucus from the mouth; vomiting; dilatation of the pupil; quickened respiration and circulation; frequent moanings; trembling of the body; continual running round; staggering gait; semi-paralysis of the extremities, especially the hinder ones; increased formation of gas in the alimentary canal; faintness and sleepiness, with great thirst. Death followed, under gradually increased feebleness, without being preceded by convulsions. To the less constant symptoms belong inflammation of the conjunctiva, and the peculiar appearance of turning round in a circle from right to left." In some cases, abscess and gangrene of various parts of the body, and dropping off of the toes, and convulsions have been noticed. It seems, from observations made by Block (*Phœbus*, op. cit., p. 107), that the Ruminantia suffer less than other animals from this drug. He mentions an instance where twenty sheep ate thirteen pounds and a half daily for two months, and thirty cows ate twenty-seven pounds daily, without producing any prejudicial action, with the exception in the latter of making the cream more caseous. Its action on the gravid uterus is varied, producing abortion in some instances; having no effect in others. Mr. Youatt remarked that there was always a more or less corresponding action of the uterus after the administration of the Ergot, less so in the ruminants than in the *monogastric* animals.

On Man.—In doses from two drachms Ergot produces nausea, inclination to vomit, dryness of the throat, great thirst, aversion to food, uneasiness or actual pain in the abdomen, occasionally alvine evacuations, weight and pain in the head, giddiness; at times, dilatation of pupils and stupor.

The most remarkable effects observed on the healthy body are those produced by the use of this substance for some time in food; and in the human race two distinct diseases are referred to its protracted use. One has been designated *Convulsive Ergotism*, which, in its most acute form, commences suddenly, and is attended with dimness of sight, giddiness, and loss of sensibility, followed soon by dreadful cramps and convulsions of the whole body, risus sardonicus, yellowness of the countenance, excessive thirst, excruciating pains in the limbs and chest, small, often imperceptible pulse; frequently ending fatally in forty-eight hours. In the milder cases the convulsions come on in paroxysms, preceded for some days by weakness and weight of the limbs, and a strange feeling as of insects crawling over the body, legs, arms, and face. In the interval of the fits, the appetite is voracious, the pulse natural, the excretions regular, and the disease either terminates in recovery, with scattered suppurations, cutaneous eruptions, anasarca, or diarrhœa.

The other form of disease has been named *Gangrenous Ergotism* by the French writers, and the *Creeping Sickness* by the Germans; commencing with general weakness, weariness, and sense of creeping, followed by cold, white, stiff, and benumbed extremities, and after a time so insensible that they might be cut without sense of feeling; excruciating pains in the extremities come on, with fever, headache, and bleeding of the nose; finally, the affected parts of the limbs shrivel, dry up, and drop off by the joints. A healthy granulation succeeds, but the powers of life were generally exhausted before that stage is reached; the appetite continues voracious throughout. In another variety the chief symptoms were spasmodic contraction of the limbs, afterwards weakness of mind, voracity, and dyspepsia, which, if not followed by recovery, either terminated in fatuity or fatal gangrene.

Its effects on the uterus, in producing the contractions of the muscular tissue, have been brought to bear in cases of difficult

parturition from want of tone of that organ. It must never be given in cases of distortion, or from mechanical impediment, as it may then produce rupture of the organ.

Its action on the brain has been noticed by a number of observers. Pain in the head, giddiness, delirium, dilatation of the pupil, and stupor are the principal symptoms indicating its action. Trousseau and Pidoux found that, under the repeated action of Ergot, dilatation of the pupil was the most common symptom, generally coming on about twelve hours after commencing the use of the medicine. Half-drachm to two-drachm doses have been known to produce these serious symptoms on the brain.

Medical Uses (Homœopathic).—Secale Cornutum was first brought into homœopathic use by Noack and Trinks. It is not mentioned by Hahnemann in any of his writings. It has been chiefly employed for neuralgic affections of the voluntary muscles: tetanus, epilepsy, chorea. Dry gangrene. Epistaxis. Hæmatemesis, with excessive debility. Diarrhœa. Painless, excessive diarrhœa. Asiatic and spasmodic cholera. Passive hemorrhages. Menstrual colic. Metrorrhagia. Spasmodic labour-pains.

Antidotes.—Camphor. Solanum nigrum.

LVIII.

SENEGA.

(POLYGALA SENEGA.*)

Rattlesnake Milkwort, or Snakewort.

Synonyms.—Planta marilandica caule non ramoso, *Raii Syn.* Polygala caule simplici erecto, *Gron. Flor. Virg.* Polygala senega, *Linn., Sp. Pl.*, 950, etc.

Foreign Names.—*Fr.:* Polygale de Virginie, Senega, Racine de Serpent à sonnettes. *Ital.:* Polygala Virginiana. *Germ.:* Senegawurz, Klapperschlangenwurz. *Swed., Dan.*, and *Russ.:* Senega.

Nat. Order, Lomentaceæ, *Linn.;* Pediculares, *Juss.;* Polygaleæ, *De Cand.*—Diadelphia, Octandria.

Gen. Char.—*Sepals* persistent; the two inner ones wing-like. *Petals* three to five, adnate to the tube of the stamen; the inferior one heel-shaped (perhaps composed of two united). *Capsule* compressed, elliptical, or obcordate. *Seeds* pubescent, caruncled at the hilum, destitute of a coma (*De Cand.*)

Spec. Char.—*Stems* several, somewhat erect, simple, terete. *Leaves* ovate-lanceolate; the upper ones acuminate. *Racemes* somewhat spiked. *Wings* orbiculate. *Capsule* elliptical, emarginate (*De Cand.*)

History.—Dr. Tennant, a Scotch physician residing in Pennsylvania, first brought this plant into notice as an antidote to the poison of venomous snakes, particularly the rattlesnake; and he gives a full account of it in a letter to Dr. Mead. It appears that he derived his knowledge of the effects from the Senegaroos, an Indian tribe, and he received a reward for his

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Fig. 1. The calyx reflected, showing the corolla. 2. A section of the same. 3. The outer leaflet of the calyx closed. 4. Section showing the anthers (these figures are magnified). 5. The root.

* Polygala, from πολυς, much, and γαλα, milk, from its reputation of increasing the milk of those animals which partake of it.

Senega.
(Polygala Senega.)

C.C. Sowerby, lith.

F. Reeve, imp.

supposed discovery; but more extended observations have proved the fallacy of trusting to this plant as an antidote to any venomous bite. It has been but little employed as an allopathic remedy, but it was formerly recommended by Bigelow, De Jussieu, and others, in the latter stages of bronchial and pulmonary inflammation, in chronic catarrh, and humid asthma; and at one time was supposed to be a specific for croup. It has also been used as an emetic, diaphoretic, and diuretic. In angina pectoris, particularly in phlegmatic or leucophlegmatic patients. In pneumonia during the critical stage (according to Vogt), when the expectoration is viscid and stagnant; according to Sundelin, when the expectoration is suspended, or ceases. In the acute exanthemata. Asthenic small-pox and asthenic measles. Scarlatina. In dropsy In angina membranacea. In whooping-cough, and in diseases of the eye.

Description.—A hardy perennial. Flowering from June to August. The *root* is woody, branched, and contorted, about half an inch in diameter, and covered with a yellowish-grey bark. The *stems* are annual, from nine to twelve inches high, occasionally tinged at the lower part with red or purple. *Leaves* are alternate, sessile, or on very short stalks; paler beneath. The *flowers* are small and white, in loose, terminal spikes. The *calyx*, which in this genus is the most conspicuous part of the flower, consists of five leaflets, the two largest of which are roundish, ovate, white, and slightly veined. The *stamens* are all united at the bottom, and attached to the corolla with eight tubular anthers, opening at the summit. The *capsule* is small, and contains two blackish seeds. The *spike* opens very gradually, so that the lower flowers are in fruit while the upper ones are in blossom.

Geographical Distribution.—North America; in most latitudes of the United States; abundant in Kentucky, Ohio, and Tennessee; Virginia, Pennsylvania, Maryland, and Canada.

Parts used in Medicine, and Mode of Preparation.—The Root. Senega, or Seneka root, sometimes called Seneka,

snake root, or the rattlesnake root, is imported from the United States in bales. It varies in size from a writing quill to that of the little finger. It is contorted, presents a number of eminences, and terminates superiorly in an irregular tuberosity, which exhibits traces of numerous stems; a projecting line extends the whole length of the root. The cortical portion is corrugated, transversely cracked, of a greyish-yellow colour. The taste of the root is at first sweetish and mucilaginous, afterwards acrid and pungent, exciting cough and a flow of saliva; its odour is peculiar and nauseous. According to Guévenne's analysis, Senega root contains polygalic acid, virgineic acid, tannic acid, pectic acid, cerin, fixed oil, yellow colouring matter, gum, albumen, woody fibre, salts, alumina, silica, magnesia, and iron. The best way to prepare this root is to make the first three attenuations by *trituration*.

Physiological Effects.—According to Pereira, Senega possesses acrid and stimulant properties. In small doses it is diaphoretic, diuretic, and expectorant. In large doses, emetic and purgative. Sundelin took a scruple of powdered Senega root every two hours for six hours; it caused irritation of the back part of the tongue and throat, and produced an increased flow of saliva. These effects were soon followed by a considerable burning in the stomach, nausea, and vomiting. The skin became warmer and moister; there was griping pain of the bowels, followed by watery evacuations; the secretion of urine was increased, and a feeling of heat was experienced in the urinary passages. For some days after there was gastric uneasiness, with loss of appetite. In larger doses, it caused burning pain in the stomach and bowels, violent vomiting, purging, anxiety, and giddiness.

Medical Uses (Homœopathic)—This drug was added to the Homœopathic Materia Medica by Stapf (vide *Add. to Mat. Med., trans. by Hempel*). He says: "The above list of diseases (vide supra), and against which Senega has been employed by allopathic physicians, when compared to the subsequent symp-

toms, which are by no means complete, furnishes an additional proof of the correctness of the homœopathic law. If Senega has fallen into disrepute with physicians, it is probably owing to the excessive size of the doses in which it has been administered, or to the fact that it was not strictly homœopathic to the case. Senega seems to correspond to a kind of angina pectoris, especially in cases which are of a rather lentescent nature from the beginning, or after the inflammatory symptoms have been subdued by Aconite or Bryonia; when the pleura is more the seat of the inflammation than the lungs; when the angina is more like the so-called rheumatic angina; when the pain is more increased by inspiration than by motion; when the pain is increased in rest; and when many symptoms **are relieved by walking in the open air.**

"It may be administered with benefit in the acute exanthemata, if symptoms appear which are like those of lentescent rheumatic angina; also in chronic catarrh and epidemic catarrhal fevers, when symptoms of the previously mentioned angina are present, especially inasmuch as the power of Senega to excite weakness corresponds to the weakness of influenza and to nervous fevers, with local affections of the chest generally.

"In pulmonary phthisis, Senega alone will probably not suffice to afford radical help; nevertheless, it will be able to remove many troublesome symptoms, by means of its action upon the respiratory organs, especially in laryngeal phthisis.

"It will probably be of some use in the treatment of asthma, on account of the analogous symptoms which it is capable of producing.

"Senega produces symptoms resembling those of angina membranacea, but those symptoms correspond more to the later stages of croup, the so-called angina serosa; this affection can be relieved by Senega. Senega does not produce any of the characteristic symptoms of whooping-cough, still it will be found curative in many cases of cough resembling whooping-cough.

"The eye symptoms of Senega do not exactly correspond in

the affections for which it has been recommended by physicians of the old school, they rather indicate the curative power of Senega in nervous affections of the eye; nevertheless, the experience of allopathic practitioners is of great service to homœopaths, inasmuch as we cannot prove our remedies until disorganization of a part has been produced. Senega deserves to be ranked among the important intercurrent remedies in affections of the eye."

ANTIDOTES.—Arnica. Belladonna. Bryonia. Camphor.

4. 1. 2. 3.

Spigelia.
(Spigelia anthelmia.)

Reeve, lith. F. Reeve, imp.

LIX.

SPIGELIA.

(SPIGELIA ANTHELMIA.)

Annual Wormgrass.

SYNONYMS.—Anthelminthia quadriphylla, *Brown, Jam.*, 156, t. 37, f. 3.

FOREIGN NAMES.—*Fr.:* Brinvillière, Poudre aux Vers. *Germ.:* Wurmtrechende, Spigelia.

Nat. Order, STELLATÆ, *Linn.;* GENTIANEÆ, *De Cand., Juss.*—PENTANDRIA, MONOGYNIA.

GEN. CHAR.—*Calyx* five-parted. *Corolla* funnel-shaped, with a five-cleft equal limb. *Anthers* converging. *Capsule* didynamous, two-celled, four-valved, many-seeded.

SPEC. CHAR.—*Stem* herbaceous, upper leaves in four.

HISTORY.—This plant was first introduced as a medicine by Dr. Browne in 1751, who says, amongst other effects, that it produces sleep almost as certainly as opium. Lindley states that the Spigelias participate in the noxious properties of Strychnos; and these poisonous qualities were known in the middle of the seventeenth century, as, on the authority of Guibourt (*Hist. des Drogues*), Spigelia anthelmintica was an ingredient in the poison mixtures, known by the name of "Poudres de Succession," of Exili, St. Croix, and Madame de Brinvilliers.

Fig. 1. Section of the corolla, exposing the stamens. 2. The calyx. 3. Germen and pistil. 4. An anther. The figure of the plant and the dissections are taken from Nees V. Esenbeck.

The name Spigelia was given to this genus by Linnæus, in commemoration of an old botanist of considerable note, Adrian Spigelius, who was born in Brussels in 1578.

Its chief employment in allopathic medicine has been as a vermifuge.

Description—Annual. Flowers in July. The *root* is blackish on the outside, fibrous. *Stem* herbaceous, a foot and a half high, channelled, and branched. *Leaves* opposite, in pairs; those which terminate the branches, four together, in the form of a cross, ovate, pointed. *Flowers* in short, herbaceous clustered spikes, ranged on one side of the footstalk. When fresh this plant has a poisonous, fœtid odour, which, enclosed in a room, may even cause narcotism; the taste is nauseous, and remains a long time on the tongue.

Geographical Distribution.—Native of the West Indies; South America; Brazil; Cayenne, etc.

Parts used in Medicine, and Mode of Preparation.—The Dry Herb, powdered, of which we make the first three attenuations by trituration. The alcoholic tincture may be obtained as in all other dry vegetable substances.

Physiological Effects.—Dr. Browne states that its narcotic properties are soon made evident; and in poisonous doses it gives rise to vertigo, dimness of vision, dilatation of the pupil (the eyes seem to be distended), and spasmodic movement of the eyelids.

Medical Uses (Homœopathic).—*Hahnemann's observations:* Hahnemann, after remarking on the uselessness of employing a medicine solely to expel worms from the intestine, without attacking the cause of those parasites, says: "This power, however, it must possess, because many observations have proved that it has restored patients to health, without the expulsion of a single worm; yet it continues to be regarded as an anthelmintic only. But thus to limit instead of enlarging its application, is to act like one who employs the most valuable instruments upon an insignificant object. The various and highly

important virtues of this plant prove that it is also destined to other and much higher purposes than the removal of worms; and if we consider the imprudence of administering it in doses of sixty or seventy grains in powder, it must be confessed that it has not fallen into safe hands.

"Spigelia has this peculiarity: that the primary action of a dose, not repeated, continues slightly to increase for seven or ten days, so that experiments tried upon a healthy subject should be cautiously made, for sixty, eighty, or a hundred drops of the tincture produce violent effects upon robust and otherwise healthy persons."

Noack and Trinks give the following clinical remarks of some diseases cured by this remedy. Violent headache over the right eye, with lachrymation, and sensation as if the eye were pressed out of the socket. Rheumatic ophthalmia. Neuralgia of the optic nerve. Neuralgia, with the pains concentrated round the eyeball. Beating toothache, generally attended with darting, tearing pains of the malar bones, and puffiness of the face. Helminthiasis. Carditis. Endocarditis. Endocarditis rheumatica. Chronic affections of the heart after carditis. Chronic affection of the heart, particularly valvular diseases. Hypertrophy and dilatation of the heart, etc. etc.

ANTIDOTES.—Aurum. Camphor. Spigelia antidotes Mercurius.

LX.

STAPHYSAGRIA.

(DELPHINIUM STAPHYSAGRIA.)

Palmated Larkspur, or Stavesacre.

SYNONYMS.—Staphisagria, *Raii Hist.; Ger. Em.*, p. 495. Delphinium Platani folio Staphisagria dictum, *Tourn. Inst.*, p. 428. Delphinium Staphisagria, *Linn.*, *Sp. Pl.*, etc.

FOREIGN NAMES.—*Fr.:* Staphisaigre. *Ital.:* Stafisagria. *Span.:* Estafisagria, Albarraz, Piogenta. *Port.:* Alvarraz. *Germ.:* Stephanskraut. *Dut.:* Luiskruid. *Swed.:* Staffausört, Lus-ört. *Dan.:* Luus-urt.

Nat. Order, MULTISILIQUÆ, *Linn.;* RANUNCULACEÆ, *Jussieu, De Candolle.*—POLYANDRIA, TRIGYNIA.

GEN. CHAR.—*Calyx* deciduous, petaloid, irregular. The *sepals* elongated at the base into a spur. *Petals* four, the two upper appendiculated within the spur (*De Cand.*)

SPEC. CHAR.—*Spur* very short. *Bracteoles* inserted at the base of the pedicel. *Petioles* pilose. *Pedicels* twice as long as the flower (*De Cand.*)

HISTORY.—Staphysagria is one of the ancient remedies, and was employed in medicine as early as the time of Hippocrates. It is the Σταφις αγρια of Dioscorides. Its uses in ancient medicine were cathartic and emetic. Pliny (*Holland's Trans.*) says: "The said kernels I would not advise to be used as a purgation, considering the doubtful event and danger that may ensue of choking and strangulation; for surely they be ennemies to the throat and weasen-pipe; they kill the itch. The floure beaten into powder, and taken in wine, is singular for the sting of ser-

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Fig. 1. The calyx and the corolla. 2. The stamens. 3. The capsules. 4. An anther. 5. The nectary. The figure of the plant and dissections are taken from Nees V. Esenbeck.

Staphysagria
(Delphinum Staphysagria)

J. C. Sowerby, lith. F. Reeve imp.

pents; for I would not counsel the use of the seed, so exceeding hot it is, and of so fierce a nature." In the present time it is chiefly employed in allopathic medicine to destroy pediculi; hence its German term Laüsesaamen.

Dr. Christison says, "attempts have lately been made to introduce it into medical practice, but nothing certain is known of its medicinal action."

DESCRIPTION.—Stavesacre is a biennial plant, and flowers from April till August. *Stem* one to two feet high, round, downy, erect, simple, and of a purplish hue. The lower *leaves* are nearly as large as those of the vine, palmated, and divided into seven lobes, which are oblong, ovate, veined, downy, sometimes acutely indented, and of a pale green colour; those on the upper part of the stem are gradually smaller, usually five-lobed, and supported on hairy footstalks of the colour of the stem. The *flowers* are bluish-purple, on terminal racemes, with pedicels twice as long as the flowers, and bracteoles inserted at the base of the pedicel. The *calyx* is petaloid and deciduous. The upper *sepal* extended behind into a long tubular spur. The *corolla* is usually divided into four petals, placed in front, within the row of sepals. The two superior are narrow, small, and at the base drawn out into spurs like that of the sepal, in which they are both enclosed; the outer two are roundish, and plaited at the edges. The *filaments* are numerous, awl-shaped, and crowned with oblong yellow anthers. The *germens* are three, superior, close together, tapering, downy, and furnished with short filiform styles, terminated by simple stigmas. The three *capsules* are ovate, oblong, tapering, pointed, with one valve opening internally, and containing many rough, brown, triangular seeds.

GEOGRAPHICAL DISTRIBUTION.—South of France; Italy; Greece; Asia Minor. Sibthorp found it growing in the Greek islands. First cultivated in this country by Miller.

PARTS USED IN MEDICINE, AND MODE OF PREPARATION.—The Seeds. Stavesacre seeds (semina staphysagriæ seu staphidis

agriæ) are irregular triangular, sometimes quadrangular, slightly arched, blackish-brown, and wrinkled; they contain a white and oily nucleus. Their odour is slight, but disagreeable; their taste bitter, hot, very acrid, and nauseous. Iodine colours the seeds brown. Their watery infusion is darkened by sesquichloride of iron. Infusion of nutgalls renders it turbid. The three first attenuations are made by trituration, and the alcoholic tincture prepared as ordered for all dry substances.

Physiological Effects.—The property of Staphysagria seems to depend upon an alkaloid called Delphinia; and Orfila found that six grains of it introduced into the gullet of a dog, brought on efforts to vomit, restlessness, giddiness, immobility, slight convulsions, and death in two or three hours. The same quantity dissolved in vinegar would cause death in forty minutes. An ounce of the bruised seeds killed a dog in fifty-four hours. Hillefield states that a dog became convulsed, and died, after five scruples of the seeds were given. The ancients employed the seeds as a masticatory; for on being chewed they excite a copious flow of saliva, and on this account were recommended in toothaches and other painful affections of the throat and gums. In large doses it produces narcotism; and Schultz, by only keeping it for some time in his mouth to relieve toothache, was for a time deprived of his senses.

Medical Uses (Homœopathic).—Four hundred and thirty-eight symptoms are recorded in the Materia Medica Pura of Hahnemann, as the effects of Staphysagria, in the provings of this remedy. From these, and from the clinical observations of Noack and Trinks, we gather that this remedy has been found useful in the cure of sycosis; sea scurvy; arthritis nodosa; dry herpes; herpes furfuraceus; suppurating humid tetters forming crusts, with swelling of the inguinal and axillary glands, and violent itching in bed; humid herpes on both arms, with tensive, burning pains; inflammation of the bones; caries; tinea capitis favosa; humid scald-head; odontalgia, aggravated in the open air and by cold drinks, relieved by warmth, and

accompanied with ready bleeding at the gums; attacks of pain in sound as well as decayed teeth, aggravated by contact of food and drink; struma, etc.

ANTIDOTES.—Camphora. Staphysagria is used as an antidote against Mercurius and Thuja.

LXI.

STRAMONIUM.

(DATURA STRAMONIUM.)

Officinal Thorn Apple, Apple of Peru, Devil's Apple, Jamestown Weed.

Synonyms.—Solanum pomo spinoso oblongo flore calathride, Stramonium vulgo dictum, *Raii Syn.*, vol. i. p. 266. Stramonium majus album, *Park.*, p. 26. Stramonium spinosum, *Gerarde Em.*, p. 348. Stramonium fœtidum, *Scot. Cam.*, p. 252. Stramonium, n. 586; *Hall Hist.*, vol. i. p. 258. Datura lurida, *Salis. Prodr.*, p. 131. Solanum maniacum, *Dioscorides, Tabula; Camer. Epit.* vol. i. p. 176. Datura Stramonium, *Lin. Sp. Pl.*, p. 255, etc.

Foreign Names.—*Fr.:* Pomme épineuse, Stramonium. *Ital.:* Stramonio, Datura. *Span.:* Estramonio. *Port.:* Estrammonio. *Germ.:* Stechapfel, Dornapfel. *Dut.:* Doorn-appel. *Swed.:* Spikklubört. *Dan.:* Galurt. *Russ.:* Durman, Pranie ozurtoi.

Nat. Order, Luridæ, *Linn.*; Solaneæ, *Jussieu, De Cand.*; Solanaceæ, *Burn.*—Pentandria, Monogynia.

Gen. Char.—*Calyx* large, tubular, ventricose, five-angled. *Apex* five-cleft, caducous; base orbiculate, peltate, persistent. *Corolla* large, funnel-shaped; tube long; limb five-angled, five-plicate, five-acuminate. *Stamens* five. *Stigma* two, lamellar. *Capsule* bristly or smooth, ovate, two-celled. *Cells* two, or many-parted, with a permanent dissepiment (*Bot. Gall.*)

Spec. Char.—*Fruit* spinous, ovate, erect. *Leaves* ovate, smooth, sinuated (*Smith.*)

History.—The Datura Stramonium has been supposed by some authors to be the same as the Στρυχνος μανικος of Theophrastus and Dioscorides. The specific name Stramonium

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Fig. 1. Corolla and stamens. 2. Germen, style, and stigma. 3. Section of the fruit. 4. A seed.

Stramonium.
(Datura Stramonium.)

C. Sowerby lith.

J. Everitt imp.

is supposed to be a corruption from Στρυχνο μανικον, in reference to its effects of causing madness. This supposition, however, is not borne out by the description of this plant by Dioscorides. He describes it as having black flowers and black fruit, which, according to Adams, is the *Solanum Sodomeum*, the Black-spined Nightshade. Sprengel, in his annotations on Dioscorides, gives four species of the genus Strychnos of the ancients, viz.: 1. Σ. κηπαιός, Solanum nigrum, Common Nightshade, or Solanum miniatum; 2. Σ. ἀλικακαβος, Physalis alkekengi, Common Winter-cherry; 3. Σ. υπνωτικος, Physalis somnifera, Cluster-leaved Winter-cherry; 4. Σ. μανικος, Solanum Sodomeum, Black-spined Nightshade. In all probability, the first notice of the Datura Stramonium is by Fuchsius, in 1542, as mentioned by Sprengel (*Hist. Rei Herb.*, t. ii. p. 326), who states that it was introduced into Germany from Italy. Gerarde received some of the seeds from Lord Edward Zouch, from Constantinople, about the end of the sixteenth century, and cultivated the plant in this country. He says, concerning the names, "The first of these thorn-apples may be called in Latin *Stramonia*, or *Malum spinosum*, or *Corona regia*, and *Melospinu*. The Grecians of our times name it παρκοκκαλον, or rather βαρυοκκαλον, as though they should saie a nut stuffing, and causing drowsinesse and troublesome sleepe. It seemeth to Valerius Cordus to be *Hyoscyamus Peruvianus*, or Henbane of Peru. Cardanus doubted whether it should be inserted among the nightshades as a kind thereof. Of Serapio and others it is thought to be Nux Methel. Serapio, in his 375th chapter, saith that Nux Methel is like unto Nux Vomica, the seede thereof is like that of mandrake; the huske is rough or full of prickles; which description agreeth herewith, except in the form or shape it should have with Nux Vomica. Anguillara suspecteth it to be *Hippomanes*, which Theocritus mentioneth, wherewith, in his Eclog of Charmes, he sheweth that horses are made madde; for Cratenus, whom Theocritus translator does cite, writeth that the plant of *Hippomanes* hath a fruit full of prickles, as

hath the fruit of wild cucumber." Baron Störck recommended it internally in mania and epilepsy. "If," says he, "Stramonium produces symptoms of madness in a healthy person, would it not be desirable to make experiments in order to discover whether this plant, by its effects on the brain in changing the ideas and the state of the sensorium (*i. e.*, of the part, whatever it may be, which is the centre of action of the nerves upon the body)—should we not, I say, try whether this plant would not restore to a healthy state those who are suffering from alienation of mind? and if by the change which Stramonium would cause in those who suffer from convulsions, by putting them into a contrary state to that in which they were, would it not cause their cure?"

In modern allopathic medicine its chief employment has been to diminish sensibility and relieve external pain. In neuralgia. Tic douloureux. Sciatica. Rheumatism. Enterodynia; and in spasmodic asthma by smoking the herb, a practice requiring the greatest caution, and often producing very serious and injurious effects. It has been given in epilepsy with some success at Stockholm, eight out of fourteen patients being entirely cured by its use.

In Germany the Thorn-apple has been extensively employed to cause loss of consciousness and lethargy, preparatory to the commission of various atrocious crimes.

Description.—A bushy, smooth, fœtid herb, annual, and flowering in July and August. The *root* is large, divided, and fibrous. The *stem* from one to three feet high, smooth, much branched, forked, spreading, and leafy. *Leaves* from the forks of the stem, and branches large, broad towards the base, pointed at the extremity, variously and sharply sinuated and toothed, of a dark green, on round, shortish footstalks. The *flowers* are large, axillary, upright, white, and sweet-scented, especially at night, on short, upright peduncles. *Calyx* pale green. The *corolla* about three inches long, white, with a greenish, five-angled tube. *Fruit* prickly, the size of a walnut. *Seeds* kidney-

shaped, and black. At night the *leaves*, particularly the upper ones, rise up and enclose the flowers (*Baxter*).

Geographical Distribution.—Europe, Asia, and North America. In this country its locality is chiefly among rubbish; and it may be found in the neighbourhood of London, and in many other localities. It is common in Wales and in Ireland.

Parts used in Medicine, and Mode of Preparation.—The Fresh Plant before it flowers. The juice is expressed and treated as other fresh plants. It must be remembered that the plan laid down for collecting this plant and drying the leaves in allopathic pharmacopœias must on no account be followed in the preparation for homœopathic uses. The dried plant loses a great deal of its medicinal virtue, and this remark applies to all other plants in which the power chiefly exists in the fresh state.* A preparation should be made from the *seeds*, which have been found, from various sources, to be very powerful.

Physiological Effects.—*On Animals.* Orfila found that half an ounce killed a dog within twenty-four hours; but a quarter of an ounce applied to a wound killed another in six hours. The symptoms were those showing that the effects were produced on the nervous system generally.

On Man.—Pereira (op. cit.) divides the effects of the doses on man into three classes. 1. In small but gradually increasing doses it diminishes sensibility, and thereby frequently alleviates pain; it does not usually affect the pulse; it slightly and temporarily dilates the pupil, and has no tendency to cause constipation but rather relaxation; though it allays pain, it does not usually produce sleep. 2. In larger doses it causes thirst, dryness of the throat, nausea, giddiness, nervous agitation, dilatation of the pupil, obscurity of vision, headache, disturbance of the cerebral functions, perspiration, occasionally relaxa-

* It would be far more satisfactory if the non-indigenous plants could be always prepared by careful homœopathic pharmaceutists in the country in which they grow; the tinctures to be made on the spot, from the fresh-gathered plant.

tion of the bowels, and in some cases diuresis; it has no direct tendency to induce sleep, hence it cannot be called soporific; but indirectly, by alleviating pain, and thereby producing serenity and ease, it often disposes to sleep. 3. In fatal doses the leading symptoms are, flushed countenance, delirium (usually maniacal), dilatation of the pupil, dryness of the throat, loss of voice, difficulty of deglutition, convulsions, and in some cases palsy.

Dr. Fowler (*Ed. Med. Comm.*, v. 163) relates the case of a little girl who took a drachm and a half of the seeds. In about two hours furious maniacal delirium came on, with spectral illusions, and this remained for some hours. She recovered.

Dr. Burton mentions the case of two soldiers who ate it by mistake for the *Chenopodium album*. One became furious, and ran about like a madman; the other died with the symptoms of genuine tetanus.

Albert Corvisart (*Jour. de Méd.*, vol. xxiii. p. 153) relates cases of three children. The symptoms were delirium, restlessness, constant incoherent talking, dancing and singing, fever, and flushed face.

Raauw Boerhaave (*Gmelin, Gesch. der Pflanz.*, 221) relates the case of a young girl who had the powder given her in some coffee, for an unlawful purpose. The symptoms were, redness of the features, delirium, nymphomania, loss of speech; then fixing of the eyes, tremors, convulsions, and coma; afterwards tetanic spasm, and slow respiration, with the coma. She recovered.

In another case (related in *Rust's Magazin für die gesammte Heilkunde*, xvii. 564) the leading symptoms were spasmodic closing of the eyelids and jaws, spasms also of the back, complete coma, and excessive dilatation and insensibility of the pupil.

In a woman rather advanced in life there occurred, from two grains of the extract of Stramonium, taken in two doses within eight hours, stupefaction, anxiety, convulsions of the limbs, and

involuntary weeping, symptoms that were frightfully increased by partaking of coffee; they rapidly disappeared after taking a few ounces of strong vinegar (*Hahnemann's Lesser Writings, trans. by Dr. Dudgeon*, p. 379).

The Thorn-apple (Datura Stramonium) causes extraordinary waking dreams, unconsciousness of what is going on, loud delirious talking like a person speaking in sleep, with mistakes respecting personal identity. A similar kind of mania it cures specifically. It excites very specific convulsions, and has thus often proved useful in epilepsy; both properties render it serviceable in case of persons possessed. Its power of extinguishing recollection should induce us to try it in cases of weak memory. It is most useful when there is great mobility of fibre, because its direct action in large doses is increased fibrous mobility. It causes (in its direct action) heat and dilatation of pupil, a kind of dread of water, swollen red face, twitching in the ocular muscles, retarded stool, difficult breathing; in its secondary action, slow soft pulse, perspiration, and sleep (*Id.*, p. 324).

Mr. Mash, of Northampton, relates the following case. A woman, aged thirty-six, took two teacupfuls of infusion of Stramonium by mistake for senna. In ten minutes she was seized with dimness of sight, giddiness, and fainting; in two hours she was quite insensible, pupils fixed and dilated, all the muscles of the body convulsed, the countenance flushed, and the pulse full and slow. The stomach-pump was applied, and in a few hours she recovered, suffering, however, from indistinctness of vision and vertigo.

Sauvage mentions a case of an old man of sixty who became intoxicated, maniacal, and lost the power of speech after taking this poison.

Mr. Spence (*Boston Med. and Surg. Journ.*) describes the case of three females who had taken infusion of Stramonium-leaves (half an ounce to a pint of water) in mistake for horehound. He found them lying in bed, stupid, unable to articulate, with a certain peculiar wildness of countenance and flushed

face; pupils dilated and insensible, conjunctivæ highly injected; lips and tongue parched; no vomiting; breathing at times stertorous and laboured; hands cold, with a trembling and slightly convulsive movement; great rigidity of the muscles of the neck and back; at times active efforts at utterance. Two cases recovered, one proved fatal.

Mr. Duffin's case (of his own child) illustrates the effect of this poison. His little daughter, aged two and a half years, swallowed, without the knowledge of the parents, upwards of one hundred of the seeds. The first symptoms were great irritability of temper, accompanied by general itching over the whole surface of the body, more especially of the face, and conduct as if intoxicated. To these succeeded flushed countenance, wildness of manner, suffused eyes, maniacal expression, ineffectual efforts to vomit, incoherent and rapid utterance, screaming, catching at imaginary objects in the air, or rather striking at them, for it was evident that these spectra were of a frightful nature, for there was an expression of horror on her face; she screamed violently and hid her face; her eye would, to appearance, follow the imaginary object for a moment or two before she made an effort to escape from its supposed approach; she rapidly became furiously delirious, struck at, pinched, or attempted to bite every person who came near her, or any object that was offered to her. In two hours the child had lost all power of utterance and of voice; she could only utter a hoarse, croaking sound, alternating with a sonorous, croupy, barking cough, and was unable to swallow, in consequence of the violent spasm which affected the muscles of deglutition when she made the effort; the pupils were dilated, had been so from the first; the voluntary power of the extremities was gone, and the limbs were violently agitated by spasmodic twitching and palpitation (not by regular convulsions), alternating with short paroxysms of tetanic spasms (opisthotonos). The pulse was almost imperceptible from the first; coma came on in five hours; a tympanitic state of the abdomen, with paralysis of the bladder; and death

ensued twenty-four hours after swallowing the seeds. The blood was found to be semi-fluid throughout the body. The few coagula met with in the auricles of the heart and large veins were very fully formed and easily broken down. A slight unusual blush pervaded the pharynx and œsophagus to about one-third of its extent; the larynx was similarly injected. The rima glottidis was thickened, and very turgid. The stomach and intestines presented an extremely healthy appearance throughout (*Lancet, April*, 1845, pp. 195, 196).

Vogt (*Pharmakodyn*, Bd. i. s. 164) says, "Stramonium is probably distinguished from Belladonna by the following peculiarities:—

"1. Its effects are more similar to those of acrid vegetables, especially of Helleborus.

"2. It operates more strongly, but more in the manner of the acrid substances on the nervous system, especially on the central organs, viz., the ganglia, spinal cord, and brain.

"3. Its secondary effects on the irritable system are not so marked, for most observers have failed to detect any alteration of pulse, and a slow pulse is more frequently mentioned than a quick one.

"4. It operates on the organic life more strongly. It more strongly and directly promotes all the secretions, especially the secretion of the skin.

"5. Marcet and Begbie have inferred, from numerous observations, that it possesses an anodyne property, which it frequently evinces where Opium and Belladonna fail."

Medical Uses (Homœopathic).—*Hahnemann's observations:* "During its premature action Stramonium produces no pain, properly so called, for the term "pain" cannot be applied to the very disagreeable sensations which it causes to him who tries its effects on himself. Actual pain is manifested only during the subsequent effect of the reaction of the organization, which opposes to the influence of the Thorn-apple a morbid state of excitement proportionate to the dose.

"The primitive effect of the Thorn-apple is also to increase the activity of the muscles subject to the will, and to suppress all the secretions and excretions, a state exactly contrary to that which accompanies the secondary effect, when the muscles become paralysed, and the secretions and excretions superabundant. For the same reason, when taken in a proper dose, it soothes spasmodic muscular movements, and restores the course of the suppressed secretions, in many cases where the absence of all pain predominates; this plant therefore can only cure homœopathically when the morbid state corresponds with its own primitive effects.

"The symptoms of reaction, which come on after the administration of all narcotic medicines, and are much more numerous and decided than after that of other narcotic substances, warn the attentive physician not to employ these means in cases where the patient already shows symptoms analogous to those of this reaction. Thus, a wise practitioner will never give Stramonium either in complete paralysis, inveterate diarrhœa, or in cases where violent pains constitute the chief suffering.

"But, and here I speak from experience, what incomparable curative power has not the homœopathic application of the mental derangement excited specially by Stramonium, exerted in analogous mental diseases arising from other causes, and how salutary is this plant in convulsive affections similar to those which it provokes!

"I have found great benefit from it in certain epidemic fevers, having symptoms analogous, mentally and physically, to its own.

"But as mania shows various modifications, so we cannot always obtain a cure for it by one remedy. In certain cases we must have recourse to Belladonna, in others to Henbane, besides Stramonium, according as the symptoms correspond homœopathically with one or the other of these three substances. Moderate doses only keep up their action for thirty-six to forty-eight hours; that of weaker doses a still

shorter time. In very strong doses there is a fear of the injurious effects lasting many days—first primitive, then secondary. When the primitive effects produced by the Thorn-apple are too violent, citric acid, and the fruits which contain it, as gooseberries, fruit of barberries, etc., are much more efficacious than vinegar to reduce them. Tobacco-smoke is good in overcoming the dullness of mind which it causes. Falcke recommends also in such cases, alcohol; and Plehwe, cold baths to the feet."

Clinical Observations.—In homœopathic practice its chief employment has been in St. Vitus's Dance. Spasmodic affections of children. Hydrophobia. Mania ferox. Mania saltatoria (*Sauvage*). Typhus fever, with delirium, anxiety, and illusions of sight; with furious delirium (*Rau*). Monomania religiosa. Some of the forms of delirium tremens, particularly with strange delusions and hallucinations. Spasm of the chest. **Angina pectoris, etc. etc.**

Antidotes.—Vegetable acids and lemon-juice. Vinegar. Nux Vom. Opium. Tabacum. Stramonium antidotes Mercurius and Plumbum.

LXII.

TARAXACUM.

(LEONTODON* TARAXACUM.)

Dandelion.

Synonyms.—Dens leonis, *Raii Syn.*, p. 170; *Ger. Em.*, p. 290. Hedypnois Taraxacum, *Scop. Carn.* ii. n. 957. Leontodon, Dens leonis, *Lamarck, Ency. Méthod.*, vol. iii. p. 349. Taraxacum officinale, *Villars Dauph.*, vol. iii. p. 72. Leontodon vulgare, *Lam. Fl. Franc.*, vol. ii. p. 113. Leontodon officinalis, *With. Bot. Arr.*, ed. 4, p. 679. Leontodon Taraxacum, *Linn.*, *Sp. Pl.*, 1122, etc.

Foreign Names.—*Fr.:* Dent de Lion, Pissenlit. *Ital.:* Tarapaco, Macerone. *Span.:* Diente de leon. *Port.:* Dente de leao. *Germ.:* Löwenrahn, Pfaffenrohrlein. *Dut.:* Pardebloem, Zeenwewand. *Swed.:* Legontand, Maskrason. *Dan.:* Lönetand, Prästekrone. *Russ.:* Oduvantschik, Dukie tsikorie.

Nat. Order, Compositæ, *Linn.*; Cichoraceæ, *Juss.*—Syngenesia, Polygamia æqualis.

Gen. Char.—*Head* many-flowered. *Involucre* double, external, scales small, closely pressed, spreading, or reflexed; internal ones in one row, erect; all frequently callous-horned at the apex. *Receptacle* naked. *Achene* oblong, striated, muricate near the small ribs, or spinellose at the apex, terminating in a long beak. *Pappus* hairy, in many rows, very white (*De Cand.*)

Spec. Char.—Quite smooth. *Leaves* unequally and acutely runcinate, the lobes triangular, toothed inwardly. Scales of the *involucre* hornless, the external ones reflexed. *Achenes* muricate at the apex (*De Cand.*)

History.—This plant has been supposed to be the ἀφάκη of Theophrastus; it is much more likely to have been the κιχόριον

Figs. 1 and 2. A seed, with its stalked pappus. 3. A floret and germen, style, and stamens. 4. Receptacle and reflexed involucrum.

* From λεον, a lion, and οδους, a tooth; from the toothed-like margin of the leaves. Dandelion, a corruption of the French *Dent de lion.*

Taraxacum
(Leontodon Taraxacum.)

CC.Sowerby, lith.

of the same author, although Adams states that this latter may be safely put down as Cichorium Intybus, the Wild Succory or Wild Endive. The Arabian physicians evidently confounded the two, as Avicenna states that Taraxacum is the Garden Endive. Its medicinal properties were known at a very early period.

Description.—Dandelion is perennial, and flowers from April to September. The *root* is spindle-shaped, very milky, of a dark brown colour on the outside. *Leaves* all radical, numerous, spreading, bright shining green, smooth, tapering downward more or less, deeply wing-cleft (pinnatifid), with sharp, unequally-toothed lobes, which point downwards, and constitute what in botanical language is called a *runcinate* or *lion-toothed leaf*. *Flower-stalks* upright, smooth, sometimes slightly cottony, cylindrical, hollow, brittle, from three to ten inches high, one-flowered. *Flowers* large and handsome, of a bright deep yellow, expanding in a morning, and in fine weather only. Outer scales of the *involucrum* several, linear, oblong, loosely recurved, and wavy, the inner becoming reflexed close to the stalk as the *seeds* ripen, leaving the light globe, nearly two inches in diameter, formed by their radiating *down* or *pappus*, quite exposed, till dispersed by the wind. *Seeds* a little crooked, flattish, scored, prickly upwards. *Pappus* on a long pedicel, radiate, simple, not feathery, shorter than the pedicel. *Receptacle* dotted (*Baxter*).

Geographical Distribution.—A native of Europe and Asia Minor. Indigenous in this country, and found in meadows and pastures everywhere.

Parts used in Medicine, and Mode of Preparation.—The Whole Plant, gathered before it flowers in the months of March and May. "The expressed juice is richest in solid constituents in the months of November and December. It is remarkable, however, that the juice possesses the greatest bitterness in the summer months; while in the spring and late in the autumn it has a remarkably sweet taste. Squire

considers this change to be effected by frost" (*Pereira*, op. cit., p. 1361).

Physiological Effects.—Taraxacum has produced in overdoses, particularly on weak digestive organs, dyspepsia, flatulency, pain, and diarrhœa. Its diuretic effects have been much overstated.

Medical Uses (Homœopathic).—*Hahnemann's observations:* "The application of this plant, like many others, has been greatly abused, and it is constantly employed, so to speak, as a general remedy. In fact, in all the diseases, which, in spite of their pretension to universal sagacity, those who called themselves practitioners did not clearly see the means of treating, as well as in all those to which no name given by pathologists applied, theory supposed a thickening of humours and obstructions of the capillary tubes, which no one perceived, in order to justify themselves, according to these fantastic suppositions, in prescribing the favourite Taraxacum, regarded from its milky juice as likely to act as a soap; because soaps having the power of dissolving a great number of substances in the *chemist's jar*, the Taraxacum was supposed, in like manner, to dissolve in the living body the viscous humours and obstructions which they thought proper to suppose existing in the patient.

"But if they had ever thought of studying the simple qualities of the Taraxacum, *i. e.*, the changes which it causes in the physical and moral state of the human frame, the particular morbid conditions which it is especially apt to excite, and, if afterwards applying this plant therapeutically, that is, employing it alone in some morbid cases, they had found it efficacious in producing a prompt and lasting cure, it would have been easy to convince themselves, by comparing its symptoms with those of the disease, that it cures only by the analogy existing between these two orders of symptoms, and that, consequently, it could never exercise a curative power in cases where such analogy is not found.

"If anything were capable of converting ordinary practi-

tioners, this phenomenon would have shown them the worthlessness of their imaginary indications, when they aim at subduing obstructions which do not exist.

"The following list of the symptoms * of the Taraxacum may contribute to work this conversion, or to destroy the *pathological-therapeutic* illusions in which practitioners wrap themselves. It will do more still, it will teach us beforehand in what particular morbid affections the juice of this plant will act with certainty as a medicine, and will henceforward prevent its use in large doses under circumstances in which, not being homœopathic, it must certainly do harm.

"When there is analogy between the Taraxacum and the morbid affection, a single drop of the juice is sufficient to perform the cure. I say of the juice, because the manufactured extract often contains copper, proceeding from the vessels in which it is prepared."

ANTIDOTE.—Camphor.

* Vide Mater. Med. Pur., vol. iv., art. Taraxacum.

LXIII.

THUJA OCCIDENTALIS.

American Arbor Vitæ.

Synonyms.—Arbor Vitæ, *Clus. Hist.*, v. i. 36. Cedrus Lycea, *Ger. Em.*, p. 1369. Thuja occidentalis, *Linn. Sp. Pl.*, p. 1421; *Michaux, Arb. For.*, v. iii. p. 29, t. 3.

Foreign Names.—*Fr.:* Thuia du Canada. *Germ.:* Lebensbaum.

Nat. Order, Coniferæ.—Monœcia, Monodelphia.

Gen. Char.—Male. *Calyx:* catkin ovate, composed of a common stalk, on which the flowers stand, opposite, in three rows, each flower having for its base a nearly ovate, concave, obtuse scale. *Corolla* none. *Stamen:* filaments in each flower four, but scarcely visible; anthers as many, attached to the base of the scale above mentioned. Male *catkin* with imbricated scales. *Anthers* four. Female on the same plant. *Calyx:* catkin nearly ovate, with opposite flowers, and consisting of two-flowered, ovate, convex scales, converging longitudinally. *Corolla* none. *Pistils:* germen minute. *Style* awl-shaped. *Stigma* simple. *Pericarp:* cone ovate-oblong, obtuse, bursting lengthwise into oblong, imbricated, nearly equal, obtuse, externally convex scales. *Seeds* solitary, oblong, each surrounded by a longitudinal membranous, emarginate wing. Catkin becoming an imbricated cone, with two flowered scales. Seeds **surrounded by a vertical membranous wing.**

Spec. Char.—*Young branches* two-edged. *Leaves* imbricated, in four rows, compressed, ovate, somewhat rhomboid, dotted. Inner scales of **the cone abrupt, tumid under the point.**

History.—The Thuja of the Greeks was probably the Juniperus oxycedros, the Κεδρος μικρα of Dioscorides, and was employed, on account of the hardness of the wood, to make images and statues. This plant has no relation to the Thuja of modern times, and more particularly of the T. occidentalis, which, being

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Figs. 1 and 2. Catkins, with sections. 3 and 4. Male and female.

J. C. Sowerby del.

F. Reeve imp.

Thuja occidentalis.

a native of North America and Canada, was only introduced into this country about the end of the sixteenth century. It has never been used in allopathic therapeutics.

DESCRIPTION.—Thuja occidentalis is an evergreen tree of humble growth, much branched, very different from most others in the compressed vertical aspects of its younger shoots and their closely imbricated *leaves*, which are small, obtuse with a point, smooth; those of two opposite rows compressed and keeled, the intermediate ones flat, with a glandular point, or cell of resin, at the back. The *flowers* appear in May, and are small, solitary, terminal; the males yellowish and most abundant. *Cones* ripen the following year, drooping, each the size of a filbert-kernel, consisting of about half a dozen lax, smooth, coriaceous *scales*. The smell of the bruised plant is something like Savine, aromatic, but not agreeable (*Smith*).

GEOGRAPHICAL DISTRIBUTION.—Native of North America, from Canada to the mountains of Virginia and Carolina. Four other species are known, viz.: 1, *Th. orientalis*, native of rocky places in China; 2, *Th. articulata*, native of Barbary; 3, *Th. dolabrata*, native of Japan; and, 4, *Th. cupressoides*, native of the Cape of Good Hope. The Th. occidentalis is distinguished from the Th. orientalis by there being no resinous dot on the leaves of the latter. They are both cultivated in this country.

PARTS USED IN MEDICINE, AND MODE OF PREPARATION.—The Leaves, gathered before the tree begins to flower, then bruised in a mortar; one part of the bruised leaves is mixed with two parts of alcohol, and the juice expressed to make the first attenuation. Three drops of this juice are to be added to ninety-seven of alcohol, and shaken, etc.

MEDICAL USES (HOMŒOPATHIC).—*Hahnemann's observations:*

"No European physician had, previously to myself, made any important use of this plant in medicine; for all that is said of it by Parkinson and Herrmann is based evidently only upon theoretical conjectures, according to the manner usually admitted in general therapeutics. According to Boerhaave, distilled

water of Thuja may be useful in dropsy. Kalm tells us that, in the United States, the people use it externally for flying pains in the limbs.

"The following list of the *pure* symptoms* caused by this powerful plant furnishes to the homœopathic physician the means of applying it with advantage in the treatment of certain serious diseases, for which no remedy has hitherto been found. He will see, for example, that the juice of the Thuja should cure specifically "condylomes vénériens," when not combined (or complicated) with other disease, and experience proves that it is the only effectual means to employ against this affection.

"In the most important cases even, I have used the thirtieth dilution. The dose is a very small portion of a drop of this dilution.

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"I have been able to test, in the most certain manner, the degree of efficacy of the various dilutions of the juice of the Thuja. I have found that the thirtieth, even the sixtieth (each glass being powerfully shaken ten or more times), was not less powerful than the first numbers; on the contrary, the power increased. Repeated experiments left me in no *doubt* on this head.

"The action of the doses, even the weakest, continues nearly three weeks."

Camphor appears to be the best antidote to Thuja.

* Vide Mat. Med. Pura, art. Thuja.

Jas. Sowerby, del. C.C. Sowerby, lith.

F. Reeve, imp.

Valeriana officinalis.

LXIV.

VALERIANA OFFICINALIS.*

Great Wild Valerian, Capon's Tail.

SYNONYMS.—Valeriana sylvestris major, *Raii Syn.*, 200; *Ger. Em.*, 1075. Phu, *Column. Phytol.*, 112, f. 114. Phu parvum, *Math. Vulg.*, vol. i. p. 37. Phu germanicum, *Fuchs. Hist.*, 357, f. Valeriana, *Hall Hist.* i., 91. Valeriana officinalis, *Linn. Sp. Pl.*, 45; *Willd.* vol. i. p. 177; *Curt. Lond.*, fas. 663; *Woode.*, t. 96.

FOREIGN NAMES.—*Fr.:* Valériane. *Ital.:* Valeriana. *Germ.:* Baldrian, Wilde Baldrianwurzel. *Dut.:* Wilde Valerian. *Swed.:* Vandelrot. *Russ.:* Balderian aptetschnoi.

Nat. Order, AGGREGATÆ, *Linn.;* DIPSACEÆ, *Juss.;* VALERIANEÆ, *De Cand.*—TRIANDRIA, MONOGYNIA.

GEN. CHAR.—Limb of the *calyx* involute during flowering, then unrolled into a deciduous pappus, consisting of many plumose setæ. Tube of the *corolla* obconical or cylindrical, equal at the base or gibbous, without a spur, limb obtusely five-cleft, rarely three-cleft. *Stamens* three. *Fruit* indehiscent when ripe, one-celled, one-seeded (*De Cand.*)

SPEC. CHAR.—Smoothish, erect. *Stem* furrowed. *Leaves* all, or nearly so, pinnatised. The *segments* seven or eight, pairs, lanceolate, serrate. *Corymbus*, at length, somewhat panicled. *Fruit* smooth (*De Cand.*)

HISTORY.—The ancients used a Valerian under the name of Φου. Their nards, the virtues of which were so highly extolled, were, according to Adams, different species of this

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Fig. 1. Calyx, corolla, anthers, and pistil, natural size. 2. The same (magnified). 3. Trifid stigma.

* Stapf makes the Valeriana minor the officinal plant; but as he takes many of his symptoms from the old writers, and as it is now fully certain that the Φου is the same as Valeriana officinalis, and not Valeriana minor, the former has been taken as the proper drug; it is probable that both have the same medicinal properties.

plant. Dioscorides, Galen, Pliny, and the Arabian physicians employed it as emmenagogue and diuretic. Sibthorp (*Flor. Græc.*) states that the ancient Φου is not the officinal Valerian, but a species, which he calls Valeriana Dioscoridis. Adams, however (*App. to Dunbar's Greek Lexicon*), says: "After some controversy, it seems to be now generally agreed that Φου is the Valeriana officinalis, or Great Wild Valerian."

Fabius Columna first brought this plant into notice as a specific for epilepsy, he having cured himself of this disease by its use in 1592; and it was employed with varying success up to the present time as an antispasmodic and nervous excitant. In the treatment of epilepsy it had its strong advocates and strong opponents. Dr. Cullen (*Mat. Med.*, vol. ii. p. 372) accounts for this "from the disease depending upon different causes," and no doubt from the symptoms not according with the pathogenetic effects of the drug, a reason quite sufficient to account for the different statements.

At the present time it is chiefly used as an ingredient in the numerous substances prescribed for hypochondriasis, hysteria, and chorea—rarely uncombined.

Description.—Valerian is a perennial plant, flowering from June to August. The *root* is composed of several long, slender fibres, of a dusky brown colour, approaching to olive, that issue from one head. The *stem* is from two to four feet in height, erect, hollow, smooth, and branched. The *leaves* are opposite, of a deep glossy green, in pairs, and hairy underneath. *Stalked leaflets* coarsely serrated, those of the radical leaves broadest, approaching to ovate. The *flowers* are small, of a reddish-white (roseate) colour, in large, dense, corymbiform panicles at the extremities of the stem and branches, and contain both stamens and pistil, by which it may be distinguished from the *Val. dioica*. The *calyx* is a slight border, subsequently expanding into a crown for the seed. The *corolla* is tubular, with a protuberance for the base, and divided at the limb into five obtuse, somewhat unequal, segments. The *stamens* are three, awl-

shaped, and support oblong yellow anthers. The *germen* is inferior, oblong, having a thread-shaped style the length of the stamens, and terminated by a trifid stigma. The *seeds* are ovate-oblong, compressed, and crowned with a feathery pappus of ten rays.

Geographical Distribution.—Indigenous. Europe, Asia Minor, North America.

Parts used in Medicine, and Mode of Preparation.—The Fresh Root, gathered in the spring, when about two or three years old. The root consists of a short tuberculated rhizome, from which issue numerous round, tapering, root-fibres, which are from two to six inches long, white internally, and when fresh greyish or yellowish-white externally, and when dried yellowish-brown. A great part of the roots used in commerce come from Kent, Essex, and Derbyshire.

Physiological Effects.—Valerian has a peculiar effect on some animals. Cats are "intoxicated" by it; they roll themselves on the ground and are violently agitated.

On man it exerts its influence on the cerebro-spinal system. Dr. Heberden (*Comment.*, chap. lxix.) states that it causes nervous agitation and hurries of spirit.

Barbier (*Mat. Med.*, vol. ii. p. 83) mentions that a patient in the Hôtel-Dieu at Amiens, after taking six drachms daily for some time, woke up delirious, and fancied that one side of the room was in flames.

Large doses cause headache, mental excitement, visual illusions (scintillations, flashes of light, etc.), giddiness, restlessness, agitation, and occasionally spasmodic movements.

Medical Uses (Homœopathic).—Stapf (*Add. to the Mat. Med. Pur., ed. by Stapf., trans. by C. J. Hempel, M.D.*) states: "This favourite has sometimes done much mischief. This is proved by the increase of hypochondria, and especially the hysteric and nervous sufferings of our ladies, which, to be sure, ought in some respects to be charged to our manner of educating our young ladies, but principally upon the use of stimulants.

and of the Valeriana especially. In Germany, Valeriana is taken almost as frequently as coffee, and is just as pernicious as the latter, or perhaps much more so.

"There is scarcely a drug which communicates its primary as well as secondary action to the organism with more intensity than Valerian.

"Its curative action in epilepsy arises entirely from its homœopathicity to some forms of this disease; also in vertigo, hysteric headache, cardialgia, and rheumatism, as recorded by Dioscorides, Columna, Mende, De Halm, Haller, etc.

"In ophthalmic affections, in spasmodic asthma, and nightmare, it is again homœopathic, and it was used successfully in these diseases by the allopathic physicians, Tabenæmontanus, Kerster, Richter, Hill, Haller, etc.

"It is most serviceable in hysteric headaches, principally existing in the forehead. Chronic and acute pains, and inflammation in the eyes, especially the margin of the lids. Several kinds of toothache. Extreme irritation and illusion of the senses. Various kinds of spasms in the abdomen, particularly those connected with hysteria. Hemorrhoids, etc."

ANTIDOTES.—Camphor and Coffea.

C.C.Sowerby, lith.

F.Reeve, imp.

Veratrum album

LXV.

VERATRUM ALBUM.

White-flowered Veratrum, or White Hellebore.

Synonyms.—Helleborus albus flore subviridi, *Bauh. Πιν.*, 186. Helleborus albus vulgaris, *Park. Theat.*, 217. Helleborus præcox, *Ger. Em.*, 440. Elleborum album, *Math. Vulgr*, vol. ii. p. 559. Veratrum flore subviridi, *Tourn. Inst.*, 272. Veratrum spica paniculata floribus maritus et feminis, n. 1204; *Hall Hist.*, vol. ii. t. 96. Veratrum album, *Linn. Sp. Pl.*, 1479; *Willd.*, vol. iv. p. 895; *Flor. Dan.*, t. 1121; *Woodv.*, t. 100.

Foreign Names.—*Fr.:* Hellébore blanc, à fleur pâle. *Ital.:* Elleboro bianco. *Span.:* Verdegambra blanco. *Port.:* Helleboro branco. *Germ.:* Die weisse Nieswurzel, Nieswurz. *Dut.:* Nieswortel. *Swed.:* Hvit frustrot. *Russ.:* Tshemeritza.

Nat. Order, Coronariæ, *Linn.*; Junci, *Juss.*; Melanthaceæ, *Brown*; Colchicaceæ, *De Cand.*—Polygamia, Monœcia.

Gen. Char.—*Flowers* polygamous. *Perianth* six-parted. *Segments* broad, concave, imbricated, nearly equal, striated, not excavated at the base. *Stamens* six, equal, inserted into the base of the segments. *Filaments* subulate. *Anthers* reniform, with confluent cells. *Ovary* with three divaricating *stigmas*. *Capsule* three-horned, separating into three, many-seeded follicles. *Seeds* compressed, winged at the apex (*Lindley*).

Spec. Char.—*Panicle* decompound. *Bracts* equalling the flowers. *Pedicels* pubescent. *Segments* of the perianth somewhat erect, obtuse, serrulate. *Leaves* ovate-oblong, plaited (*Sprengel*).

History.—This plant is supposed to be the Ελλεβορος λευκὸς of Theophrastus, Dioscorides, etc. Dr. Francis Adams (*Append. to Dunbar's Greek and Engl. Lex.*), the best authority on the history of the plants used by the ancients, has the following remarks: "Modern authorities on botany differ widely in

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Fig. 1. Germen, style, stigma, and stamens. 2. The stamens. 3. A single anther.

opinion respecting the Helleborus albus of the ancients. Sibthorp most unaccountably decides it to have been the *Digitalis ferruginea*. Schulze, who is too prone to sceptical doubts on botanical questions, expresses himself with great hesitation regarding it, but on the whole inclines to the *Adonis vernalis*. Woodville and Dierbach are quite undecided; on the other hand, Mathiolus, Dodonæus, C. Bauhin, Hill, and Stackhouse find no difficulty in recognising it as the *Veratrum album*. L. Geoffroy also, no mean authority on these subjects, maintains that the description of Dioscorides agrees very well with the characters of the White Hellebore; and from the similarity of the effects produced by the administration of the E. λευκὸς, as described by the ancient writers on toxicology, to the known effects of the *Veratrum album*, I had no hesitation, some time ago, in recognising their identity; and it now gives me pleasure to discover that Sprengel, in his annotations on Dioscorides, comes to the same conclusion. It is further deserving of remark, that the Helleborus was much celebrated anciently for the cure of hydrophobia. I had called the attention of the profession to this fact in the *London Medical and Physical Journal*, July, 1828; about eighteen months afterwards the Savadilla Veratrum, a Mexican species of Hellebore, was much cried up in this case."

According to Wibmer, quoted by Russell (*On Epidemic Cholera*), it is one of the oldest poisons, and supposed to have been used by the Gauls and other nations in their gallant warfare against the Romans. So that to it Horace probably alludes in his famous ode, in which he introduces the "venenatis gravida sagittis." This rests on the authority of Pliny, Celsus, and Dioscorides.

Hahnemann (*On the Helleborism of the Ancients**) states that

* The reader is referred to this treatise, translated by Dr. Dudgeon, for an elaborate history of the Veratrum album. In a note, Dr. Dudgeon writes, "This essay is too valuable to be cast aside unread, if we would wish to form a just estimate of the learning and genius of Hahnemann."

it occupies the first rank among the medicines of the ancients, thus being one of the most ancient as well as efficacious of remedies. He also proves that the *Veratrum album* of the ancients and the moderns are identical, by comparing the symptoms produced by each; "in the face of such remarkable resemblance of the symptoms caused by these two plants, who can deny that the very same plant which now grows in our gardens was that which the ancients made use of for the production of helleborism? Where, I ask, can another plant be found which shall show these same peculiar effects on the human body that are produced by the White Hellebore of the ancients and our Veratrum album? The external character of the plant resembles that described by the ancients, the name is the same as that given to it by the Romans, it has the same properties now as formerly, there is the same danger attending its use now as formerly; it is undoubtedly the same plant."

The E. μελας, or Black Hellebore, is the *H. orientalis* (*Lam.*)

Hippocrates advised the employment of this medicine in melancholia and quartan fevers, Aretæus in cases of elephantiasis, Dioscorides and the Arabian physicians as an emetic, and they agree in stating that it will produce convulsions in an overdose; and Macer Floridus employed it successfully in epilepsy; Rhases praises its effects in epilepsy and mania; Conrad Gesner employed it extensively in the same diseases. It was one of the ingredients in the *eau médicinale* in the cure of gout. Greding tried it in twenty-five cases of mania and melancholia with varied success; at present it is rarely employed, principally owing to its uncertain action, its chief uses being in affections of the nervous system, as melancholia, mania, and epilepsy. In some chronic skin diseases, scabies, tinea capitis, etc. In gout and amaurosis, and, as a sternutatory, in some chronic affections of the brain (hence its German name *Niesswurzel*, or Sneezeroot).

Description.—This plant is a hardy perennial, flowering from June to August. The *root* is tuberous, fleshy, brown

externally; at the base a number of long white fibres. *Stem* from two to five feet high, erect, simple, and hairy. *Flowers* greenish-white, in a large, branching, downy panicle, with alternate spikelets terminating the stem. *Leaves* large, elliptical, entire, ovate-oblong, plaited, of a fine green colour; the upper ones become oblong, lanceolate bracteas. The *perianth* consists of six subpetaloid pieces of a pale green colour, which are oblong, lanceolate, veined, spreading, of a coriaceous texture, and accompanied by an elliptical, lanceolate, downy bractea. The *filaments* are six, closely surrounding the germen, shorter than the corolla, diverging, and terminating by quadrangular anthers. The *germens* are three in each, hermaphrodite, flower oblong, with spreading styles, which are terminated by bifid stigmas. The *capsules* are three, oblong, compressed, two-celled, bursting at the inner edge, and containing many oblong, compressed, imbricated seeds, winged at each end.

Geographical Distribution.—Native of the mountainous districts of Europe (Auvergne, Vosges, the Jura, and the Alps). It is found in great abundance on the Alps of Switzerland, and generally growing in company with the beautiful *Gentiana lutea*. Asia Minor. There are two varieties in North America, the *Veratrum viride* and *V. angustifolium*.

Parts used in Medicine, and Mode of Preparation.—The Root, collected at the beginning of June, reduced to powder and prepared with alcohol. The *rhizome* is single, double, or many-headed, having the form of a cylinder, or more frequently of a truncated cone; it is from two to four inches long, and about one inch in diameter, rough, wrinkled, greyish or blackish-brown externally, whitish internally. Portions of the root-fibres are usually attached to it, as well as some soft, fine, hair-like fibres. At the upper extremity of the rhizome we frequently observe the cut edges of numerous concentric, woody, or membranous scales, they are portions of the dried leaf-sheaths; when cut transversely the rhizome presents a large central portion (frequently called medulla), which

varies in its qualities, being woody, farinaceous, or spongy, in different specimens. This is separated by a brown, fine, undulating line from a thick woody ring, in which the root-fibres take their origin. On the outside of this is a narrow but compact brown epidermoid coat. The odour of the dried rhizome is feeble, the taste is at first bitter, then acrid; by keeping the rhizome it is apt to become mouldy (*Pereira*, op. cit.)

Physiological Effects.—Dr. Schabel states that from his own experience, and from those of Wepfer, Courten, Viborg, Orfila, etc., he finds that Veratrum album is poisonous to all classes of animals. It produces in every instance symptoms of irritation of the alimentary canal; it is very active, three grains of the extract applied to the nostrils of a cat killed it in sixteen minutes (*Christison*).

On man it acts as a powerful acrid irritant, causing violent sneezing when applied to the nose, and sometimes epistaxis. In *Rust's Journal* (*Mag. für die gesammte Heilkunde*, xiv. 547) an account is given of the poisoning of eight people by this drug. The powder of the root had been put into some bread instead of cumin-seed, and it was eaten for a week; at the end of that time they were attacked by violent pains in the abdomen, a sensation as if the intestines were tied up in a knot, swelling of the tongue, soreness of the mouth, and giddiness. They all recovered after the use of laxatives.

Horn (*Archiv für Mediz. Erfahrung*, 1825) states that three people took the root by mistake. The symptoms were: in about an hour, burning in the throat, gullet, and stomach, followed by nausea, dysuria, and vomiting; weakness and stiffness of the limbs; giddiness, blindness, and dilated pupil; great faintness, convulsive breathing, and small pulse. One had imperceptible pulse, stertorous breathing, and total insensibility, even to ammonia held under her nose. Next day this case was lethargic; complained of headache, and had an eruption similar to flea-bites. They all recovered.

Bernt (*Beitrage zur gesicht. Arznei.*, iv. 47) quotes a fatal

case: a man took twice as much as could be held on the point of a knife. He was attacked with violent and incessant vomiting, and lived only twelve hours. The gullet, stomach, and colon were found inflamed, in patches.

In excessive doses it produces violent vomiting and purging (sometimes of blood); tenesmus; burning sensation in the mouth, throat, œsophagus, stomach, and intestines; constriction in the throat, with a sense of strangulation, griping pain in the bowels, small pulse, faintings, and cold sweats; tremblings, giddiness, blindness, dilated pupils, loss of voice, convulsions, and insensibility. It has been remarked also that palpitation and intermitting pulse, with dyspeptic and nervous symptoms, have come on after the use of this medicine.

Etmuller states that this root, when applied to the abdomen, produces violent vomiting; and Schrœder observed the same when this root was used as a suppository. Van Helmont also says that a royal prince died in three hours after taking a scruple of this drug, which induced convulsions.

Hahnemann (*Antidote to some Heroic Vegetable Substances, trans. by R. E. Dudgeon, M.D., in Lesser Writings*, p. 379) relates the following cases: "I had the greatest difficulty in restoring two children, the one a year and three quarters old, the other five years old, who had both taken White Hellebore by mistake, the former four grains, the latter seven grains. Those conversant with such matters will consider both to be of *themselves* fatal doses, and as long as no antidote is known *absolutely* fatal. "But few minutes elapsed before the greatest changes were observable in both children. They became quite cold, they fell down, their eyes projected like a suffocating person's, the saliva ran continually from their mouths, and they seemed devoid of consciousness, when I saw them half an hour after the accident. "It had already been tried to incite them to vomit by means of a feather, without success; indeed with an aggravation of their symptoms, as I was told. Milk administered by clyster, and poured down the throat in large quan-

tities, had had no effect, except the production of scanty vomiting, which did no good, but only increased the faintness.

"When I arrived both seemed at the point of death; distorted projecting eyes, disfigured cold countenance, lax muscles, closed jaws, imperceptible respiration. The infant was the worst. The impending death by apoplexy, the failing irritability, at once induced me to combat the symptoms, if possible, with strong coffee. I introduced, as far as the clenched jaws would allow me, warm coffee into the mouth, but I chiefly sought to give it in large quantity by means of an enema, it was successful; in the course of an hour all the danger was gone, and the heat, the consciousness, and respiration returned."

MEDICAL USES (HOMŒOPATHIC).—*Hahnemann's observations:*

"That most incomparable remedy, White Hellebore (*Veratrum album*) produces the most poisonous effects, which would inspire the physician who aspires to perfection with caution, and the hope of curing some of the most troublesome diseases that have hitherto usually been beyond medical aid. It produces in its direct action a kind of mania, amounting, from larger doses, to hopelessness and despair; small doses make indifferent things appear repulsive to the imagination, although they are not so in reality. It causes, in its direct action—*a*, heat of the whole body; *b*, burning in different external parts, *e. g.*, the shoulder-blades, the face, the head; *c*, inflammation and swelling of the skin of the face, sometimes (from larger doses) of the whole body; *d*, cutaneous eruptions, desquamation of the skin; *e*, a formicating sensation in the hands and fingers, tonic cramps; *f*, constriction of the gullet of the larynx, sense of suffocation; *g*, rigidity of the tongue, tough mucus in the mouth; *h*, constriction of the chest; *i*, pleuritic symptoms; *k*, cramp in the calves; *l*, an anxious (gnawing?) sensation in the stomach, nausea; *m*, gripes, and cutting pain here and there in the bowels; *n*, great general anxiety; *o*, vertigo; *p*, headache (confusion of the head); *q*, violent thirst. On passing into the direct secondary action, the tonic cramps resolve themselves into clonic

cramps; there occur, *r*, trembling; *s*, stammering; *t*, convulsions of the eyes; *u*, hiccough; *v*, sneezing (from the internal use); *w*, vomiting (when at its height black, bloody vomiting); *x*, painful scanty evacuations, with tenesmus; *y*, local or (from large doses) general convulsions; *z*, cold (from large doses bloody) sweat; *aa*, watery diuresis; *bb*, ptyalism; *cc*, expectoration; *dd*, general coldness; *ee*, marked weakness; *ff*, fainting; *gg*, long, profound sleep. Some of the symptoms of its direct action (*l*, *m*, *n*, *p*, *q*) would lead us to use it in dysenteric fever, if not in dysentery. The mania it causes, together with some symptoms of its direct action (*e*, *f*, *g*, *h*, *n*, *q*) would lead us to employ it in hydrophobia, with hopes of a good result. A dog to which it was given had true rabies, lasting eight minutes. The ancients speak of it with approbation in hydrophobia. (In tetanus), in spasmodic constriction of the gullet, and in spasmodic asthma, it will be found specific on account of *f* and *h*. It will prove of permanent advantage in chronic cutaneous diseases on account of *c* and *d*, as experience has already shown with regard to herpes. In so-called nervous diseases, when they are dependent on tense fibre or inflammatory symptoms (*a*, *q*), and the symptoms in other respects resemble the Veratrum disease, it will be of benefit, so also the manias of a like character" (*Hahnemann on the Curative Power of Drugs, trans. by R. E. Dudgeon, M.D.*)

According to the clinical observations of Noack and Trinks (op. cit.), Veratrum seems to be most serviceable in excessive paralytic chronic debility, particularly after the abuse of China, and after an exhausting illness, with disposition to faint. In tertian fever. Abdominal typhus, with vomiting, diarrhœa, coldness of limbs, and cold sweat. Different forms of mania. Nervous headache, with nausea and vomiting. Acute hydrocephalus of infants, with disposition to vomit on raising the head. Chronic vomitings. Vomitings, which cannot be arrested, excited by drinking water, or by movement. Cholera infantum. Sporadic cholera. Asiatic cholera, with vomitings, diminished temperature of the

skin, unquenchable thirst for cold water, choleric voice, collapse of pulse. Cholera in the third stage. Cardialgia. Flatulent colic.

Dr. Quin (*Trait. Hom. du Choléra*) advises this remedy in cholera acuta, cholera vomitoria, cholera spasmodica, cholera asphyxia seu sicca, and cholera inflammatoria, according to the indications.

Dr. R. Russell (*On Epidemic Cholera*, p. 225) says: "Veratrum album has a local and traditional celebrity for the cure of cholera. The following cure is recorded in the works ascribed to Hippocrates: 'A young Athenian affected with cholera evacuated upwards and downwards, with much suffering; nothing could arrest the vomiting or alvine evacuations. His voice failed; he could not stir from bed; his eyes were lustreless and sunken; he had convulsions of the lower extremities, from the abdomen downwards; he had hiccough, and the alvine dejections were more copious than the vomitings. He took Veratrum in lentil-juice, and recovered.' Hippocrates was an unconscious homœopathist. Had he lived after Hahnemann, he would have gloried in a profession of its principles, and utterly disavowed those who now call themselves by his name. * * * * Veratrum was the medicine in the highest repute during the former epidemic; and in the prevalence of cholera in Petersburg, Müller mentions that it was the favourite remedy there. Nothing can be clearer than the homœopathicity of Veratrum for cholera in general."

ANTIDOTES.—To large doses: strong solution of Coffee. To small doses: Aconitum. Camphora. Coffea.

LXVI.

VERBASCUM* THAPSUS.

Common Mullein, or High Taper.

Synonyms.—Verbascum, *Pharm. Edinb.* Verbascum mas latifolium luteum, *Bauh. Πιν.*, p. 239; *Raii Hist.*, p. 1094. Verbascum album vulgare, sive Thapsus barbatus communis, *Park. Theat.*, p. 60. Tapsus barbatus, *Gerarde Emar.*, p. 773. Verbascum foliis decurrentibus utrinque tomentosis, *Hal. Stirp. Helv.*, n. 581. V. Thapsus, *Flor. Dan.*, p. 631; *With. Bot.*

Foreign Names.—*Fr.:* Molène, Bouillon-blanc. *Ital.:* Verbasco. *Span.:* Gordolobo. *Port.:* Verbasco branco. *Germ.:* Wollkraut. *Dut.:* Wollekruid. *Swed.:* Kongsljus. *Dan.:* Kongelys. *Russ.:* Zarskie skipeta.

Nat. Order, Solaneæ, *Juss.*; Luridæ, *Linn.*—Pentandria, Monogynia.

Gen. Char.—*Calyx* campanulate, five-partite, nearly equal. *Corolla* with a very short tube; the limb flat, expanded, somewhat rotate, five-partite; the lobes rounded, nearly equal, or the lower ones equal. *Stamens* five, inclining, the lower ones longer, all fertile. The *filaments* either all, or the three upper barbate. *Anthers* generally adnate and (by the confluence of the cells) unilocular. *Style* simple, thick at the apex. *Stigma* entire or bifid. *Capsule* ovate or somewhat globose; the valves bifid at the apex.

Spec. Char.—*Leaves* decurrent, crenate, woolly on both sides. *Stem* simple. *Cluster* dense. *Flowers* almost sessile. *Corolla* golden yellow. *Stamens* red. *Stigma* green.

History.—The Φλόμος of Hippocrates and other ancient authors is supposed to be the *Verbascum Thapsus* of the moderns.

Fig. 1. Calyx. 2. Style and stigma. 3. Barbate filament. 4. Corolla dissected, to show the stamens.

* Verbascum, altered from Barbascum, from the woolly bearded appearance of its leaves, etc.

4. 1. 2. 3.

Jas. Sowerby, del. C.C. Sowerby, lith. F. Reeve, imp.

Verbascum thapsus.

Sibthorp states that the male Λευκη φλόμος is the *V. Thapsus*; but Sprengel thinks that the female is the Mullein, and the male the *V. undulatum*. "They used the leaves as, being sour, suiting all kinds of fluxes." It held a place in the Dispensatory as late as the time of Lewis, but is now discarded from the Pharmacopœia. It has been given in catarrhal coughs and diarrhœa (*Home, Clin. Ex. and Hist.*, sect. xxii.); and it is occasionally employed as cataplasms to indurated glands.

Pliny states that figs, if wrapped up in the leaves of the Mullein, do not putrefy.

Description.—Verbascum Thapsus is a biennial. Flowers in July and August. *Stem* from three to five feet high, erect like a staff, woolly, winged, with decurrent acute leaves, which are clothed with white, entangled, starry, wool-like cloth or flannel. *Flowers* very numerous, large, of a bright golden yellow, with orange-coloured hairy stamens, and roundish, red anthers. There are thirty-four species of this genus.

Geographical Distribution.—A native of the British Isles, and found in most parts of Europe, and is now common in America. It is found in this country on banks and waste grounds.

Parts used in Medicine, and Mode of Preparation.—The Fresh Herb, gathered in July, and the juice expressed and mixed with equal quantities of spirits of wine, etc.

Physiological Effects.—Fish are stupified by the seeds of the Verbascum. It has a slight narcotic effect on the human economy. It produces sensation of extreme heaviness of the head, heat in the eyes, violent pains in the ears, with symptoms similar to neuralgia.*

Medical Uses.—This drug was introduced as a homœopathic remedy by Hahnemann, who states that the emollient and resolvent properties ascribed to this plant by the allopaths is only conjectural, and that the only true plan is to watch the symptoms it produces on persons in health.

* Vide Hahnemann's Mat. Med. Pura, art. Verbascum.

According to Noack and Trinks's clinical observations, Verbascum is serviceable in prosopalgia, especially when the pain is aggravated by pressing on the parts. In cough, from continual titillation in the throat, with sharp, hollow, trumpet-like sound, deep out of the chest, and in some forms of cephalalgia.

ANTIDOTE.—Camphor.

THE END.

APPENDIX I.

ARNICA MONTANA: ITS USE IN CONTUSIONS, ETC.

A cette même epoque, l'arnica, autre moyen extrêmement actif, fut vantée principalement par les médecins allemands. Pendant longtemps cette plante avait été regardé par le vulgaire comme un excellent remède pour prévenir les suites des coups, et surtout des chutes, avant qu'elle fixat l'attention des practiciens. Le premier qui en fasse mention est Jaques Théodore Tabenæmontanus, médecin de l'Electeur Palatin et l'un des plus célèbres botanistes du seizième siècle (*Sprengel, Hist. de la Méd., trad. par Jourdan,* vol. v. p. 472).

APPENDIX II.

CAMPHORA: ITS USE IN CHOLERA.

Dr. Quin (*Trait. Hom. du Choléra*, Paris, 1832, p. 19) in a note writes: "Les proportions de camphre indiquées par Hahnemann sont une partie de camphre dans douze d'alcool. Voici comment j'ai été conduit à en employer d'autres: au moment où je fus frappé du choléra, je n'avais à ma portée que l'esprit de camphre concentré (1 p. dans 6), voyant que les moments étaient précieux je m'administrai ce médicament; le résultat fut assez heureux pour m'encourager à le continuer aux malades que j'eu à traiter."

Hahnemann afterwards adopted this formula (one part of camphor to six of alcohol), and advised its use in preference to any other.

APPENDIX III.

BOVISTA.

The *Lycoperdon Proteus* has been found to be a perfect anæsthetic agent, and that it acts like chloroform in producing insensibility (vide *Lancet*, July, 1853). It is probable that the fumes of *Lycoperdon Bovista* would have the same property.

APPENDIX IV.

The following Plants are occasionally used as Homœopathic Remedies.

1. Proved by Hahnemann and others.

Latin Name.	*English Name.*	*Natural Family, and Linnæan Class and Order.*	*Geographical Distribution.*	*Time of Flowering.*	*Parts used in Medicine.*
Chelidonium majus.	Wild Celandine.	Papaveraceæ, *Juss.* Polyandria, Monogynia.	Indigenous, Europe.	June.	The Root, gathered in May.
Menyanthes trifoliata.	Buckbean, Marsh Trefoil.	Lysimachiæ, *Juss.* Pentandria, Monogynia.	Indigenous, Europe and N. America.	June and July.	The whole Plant, gathered in autumn.

2. Proved by Stapf and others.

Mercurialis perennis.	Dog's Mercury.	Umbelliferæ. Pentandria, Digynia.	Indigenous, generally over Europe, America.	June.	The whole Plant, at the time of flowering.
Petroselinum.	Parsley.	Euphorbiæ, *Juss.* Dioecia, Enneandria.	Indigenous, Europe.	April and May.	The whole Plant.
Rhododendron chrysanthum.	Golden-flowered Rhododendron.	Rhododendra, *Juss.* Decandria, Monogynia.	Siberia, Kamtchatka.	June and July.	Leaves and Buds.
Teucrium marum verum.	Cat Thyme.	Labiatæ. Didynamia, Gymnospermia.	Indigenous, Levant, Spain, Germany, France.	July and August.	Branches, full of Leaves & Flowers.
Viola odorata.	Sweet-smelling Violet.	Cistæ, *Juss.* Pentandria, Monogynia.	Indigenous, Europe.	March and April.	The Flowers.
Vitex agnus castus.	Chaste Tree.	Verbenaceæ. Didynamia, Angiospermia.	Shores of Mediterranean, Provence, Greece.		Leaves & Flowers.

3. Proved by Hartlaub and Trinks, Noack and Trinks, and others.

Latin Name.	*English Name.*	*Natural Family, and Linnæan Class and Order.*	*Geographical Distribution.*	*Time of Flowering.*	*Parts used in Medicine.*
Filix mas.	Male Fern.	Filices.	Indigenous.	July.	The whole Plant, in August.
Gratiola officinalis.	Hedge Hyssop.	Scrophulariæ. Decandria, Monogynia.	Indigenous, Europe.	July.	The Fresh Plant, before Flowering.
Millefolium. (Achillæa millefolium.)	Milfoil, Yarrow.	Corymbiferæ. Myrtaceæ, Icosandria, Monogynia.	Indigenous, Europe, Africa.	June.	Root.
Granatum. (Punica granatum.)	Pomegranate.	Syngenesia. Polygamia, Superflua.	Europe, W. Asia, N. America.	July and August.	The Fresh Plant, before flowering.
Phellandrium aquaticum.	Water Hemlock.	Umbelliferæ. Pentandria, Digynia.	Indigenous.	July and August.	The Seeds, collected in September.
Ratanhia. (Krameria triandra.)	Ratanhy Root.	Polygaleæ. Pentandria, Monogynia.	Europe, Persia.	September.	Root.
Tabacum.	Tobacco.	Solaneæ, *Juss.* Pentandria, Monogynia.	S. & N. America, Asia, Europe, Africa.	July.	The Fresh Leaves, before flowering.

4. From the Transactions of the American Institute of Homœopathy.

Momordica elaterium.	Squirting Cucumber.	Cucurbitaceæ. Monœcia, Monodelphia.	S. of Europe.	July and August.	The Fruit and Seeds.
Eupatorium perfoliatum.	Bone-set, Agueweed.	Corymbiferæ. Syngenesia, Polygynia, Æq.	N. America.	Summer months.	The whole Plant.
Kalmia latifolia.	Mountain Laurel.	Rhododendra. Decandria, Monogynia.	N. America.	May.	The Leaves.
Lobelia inflata.	Indian Tobacco.	Lobeliaceæ. Pentandria, Monogynia.	N. America, S. America.	July and August.	The Fresh Plant.
Sanguinaria Canadensis.	Blood Root.	Papaveraceæ, *Juss.* Polyandria, Monogynia.	N. America, Canada.	March and April.	Fresh Root.

Figures of these plants, together with representations of the different animals, reptiles, insects, etc., which afford homœopathic remedies, will be given in a future volume, when further provings, etc., have been made.

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Guaiac	i.	280
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Hemp	i.	134
Henbane	i.	292
Herb Paris	ii.	98
Hellebore (White)	ii.	209
Hemlock	i.	220
I.		
Ipecacuan	ii.	8
M.		
Marigold	i.	110
Marking-nut-tree	i.	27
Marsh Ledum	ii.	21
Meadow Saffron	i.	199
Mezereon	ii.	33
Monkshood	i.	1
Mullein	ii.	218
N.		
Nutmeg-tree	ii.	40
Nux Vomica	ii.	48
O.		
Oleander	ii.	65
P.		
Peruvian Bark	i.	152
Poison Oak	ii.	130
Poppy (White)	ii.	98
Puff-ball	i.	95
R.		
Rosebay	ii.	60
Rhubarb	ii.	124
Rue	ii.	143
S.		
Saffron Crocus	i.	231
Sarsaparilla	ii.	166
Savin	ii.	148
Snakewort	ii.	176
Sow-bread	i.	238
Spotted Hemlock	i.	230
Spurge	i.	275
Stavesacre	ii.	184
St. Ignatius's Bean	ii.	1
Squill	ii.	163
Sun-dew	i.	255
T.		
Tree of Life	ii.	202
Thorn Apple	ii.	188
U.		
Upright Virgin's Bower	i.	180
V.		
Valerian (Great Wild)	ii.	205
W.		
Wind-flower	ii.	102
Worm-seed	i.	176

LONDON:

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